BIODIVERSITAS
Volume 21, Number 11, November 2020
Pages: 5186-5229

ISSN: 1412-033X
E-ISSN: 2085-4722
DOI: 10.13057/biodiv/d211125

Screening of plant collection of Cibodas Botanic Gardens, Indonesia with anticancer properties

RISHA AMILIA PRATIWI♥, YATI NURLAENI♥♥
Cibodas Botanic Gardens, Research Center for Plant Conservation and Botanical Garden, Indonesian Institute of Sciences. Jl. Kebun Raya Cibodas, Sindanglaya, Cipanas, Cianjur 43253, West Java, Indonesia Tel./fax.: +62 263 512233, ♥email: risha.amilia.pratiwi@lipi.go.id, ♥♥yati.nurlaeni@lipi.go.id

Manuscript received: 24 August 2020. Revision accepted: 16 October 2020.

Abstract. *Pratiwi RA, Nurlaeni Y. 2020. Screening of plant collection of Cibodas Botanic Gardens, Indonesia with anticancer properties. Biodiversitas 21: 5186-5229.* Cancer is a life-threatening disease worldwide. One approach to developing effective treatment in fighting cancerous cells is to obtain anticancer drug candidates from natural resources, such as plants. This study aimed to inventory and categorize plant collections in Cibodas Botanic Gardens (CBG), West Java, Indonesia that has anticancer properties in a detailed and comprehensive manner. Literature research was conducted in international scientific databases using several keywords expressing anticancer properties to produce list of plant species potential for anticancer. The results of this research were then cross-checked with the plant collection database of CBG. List of plants exhibits anticancer activities were then categorized based on the IC_{50} values (an indicator of cytotoxicity). Our result showed 291 species from 90 families of CBG plant collection harbor anticancer properties. Among them, 93, 100, 36, and 62 species have IC_{50} values under Class I (strong), Class II (moderate), Class III (inactive), and Class IV (insufficient IC_{50} data), respectively. The families with the highest number of potential anticancer plants are Lauraceae, Leguminosae, Meliaceae, Myrtaceae, Moraceae, Cupressaceae, Asparagaceae, Euphorbiaceae, Compositae, Clusiaceae, Lamiaceae, Apocynaceae, Adoxaceae, Amaryllidaceae, and Elaeocarpaceae. Species that have strong anticancer activities include *Acacia farnesiana, Aglaia edulis, A. elliptica, A. silvestris, Artocarpus elasticus, Bauhinia strychnifolia, Buxus microphylla, Calophyllum soulattri, Cerbera manghas, Cocculus orbiculatus, Cryptocarya chinensis, C. konishii, C. laevigata, Dalbergia parviflora, Diospyros discolor, Erythrina abyssinica, Etlingera elatior, Ficus fistulosa, Garcinia* x *mangostana, Hemerocallis fulva, Jatropha gossypiifolia, Panax ginseng, Podocarpus macrophyllus, Psidium cattleianum, Sansevieria ehrenbergii, Tacca chantrieri, Toona sinensis, Viburnum odoratissimum*, and *V. Sambucinum.* Even *Serenoa repens* and *Taxus sumatrana* contain active compounds that have been commercialized as anticancer drugs. The data resulted from this study can serve as baseline information for further research in drug discovery and development for anticancer treatments using living plant specimens collected in CBG. CBG has a great prospect of medicinal plants that require further studies for formulating anticancer drug as an alternative natural resource.

Keywords: Anticancer property, Cibodas Botanic Gardens, inhibitory concentration, plant metabolite secondary

INTRODUCTION

Cancer is the second leading cause of mortality globally after cardiovascular diseases. The International Agency for Research on Cancer (IARC) (2018) estimated the global cancer burden has risen to 18.1 million new cases and 9.6 million deaths in 2018. Indonesian Ministry of Health research data (Riskesdas) (2018) shows that the prevalence of cancer in Indonesia has increased from 1.4 to 1.8 cases per thousand of population in 2015 and 2018. By 2030, it is projected that there will be 26 million new cancer cases with 17 million deaths per year (Thun et al. 2010).

Considering cancer as a life-threatening disease worldwide, there is a continuing demand for developing treatments that are effective in fighting cancerous cells with less harmful than existing therapies. Solid tumors can be removed surgically, or by radiation treatment and chemotherapy that painful and induce toxic effects to patients. Drugs can be used as treatment for certain types of cancer, such as biological drugs, Herceptin, against breast cancer. However, the drug is very costly while the effectiveness is limited to certain kinds of tumors. Furthermore, it was found in many cases that the tumor can develop resistance to various drugs. Covering the problems, one approach is to obtain the anticancer drug candidates from secondary metabolite of natural resources, such as plants (Fridlender et al. 2015).

Utilizing plant as new drug resources in cancer treatment provides many advantages, including it is more cost-effective than developing synthetic compounds, faster discovery of new drugs, offering a holistic approach that complements the “silver bullets” of modern drug, and synergistic effects between the various compounds of the herbs give promising better healing effects overall (Fridlender et al. 2015). The natural products are also expected to build co-evolution against cancer cells so that the incidence of cancer drug resistance is expected to be minimal (Wang et al. 2015).

More than 3000 species of plant over the world have been reported to have anticancer properties (Solowey et al. 2014). The promising sources of anticancer properties from plants belong to various groups of compound, such as alkaloids, diterpenes, diterpenoquinone, purine-based compounds, lactonic sesquiterpene, peptides, cyclic depsipeptide, proteins, macrocyclic polyethers, and so on (Lichota et al. 2018). In searching for anticancer properties in plant, there is a long journey involving several steps that generally need to go through. Initially, plant-derived substances are discovered by botanists or ethnobotanists, ethnopharmacologists, or plant ecologists. Then, phytochemists identify the potential therapeutic activities through the isolation of active compounds and biological screening assays. Finally, the mode of action and relevant molecular targets are proven through molecular biology research (Lichota et al. 2018).

A complex set of ethnobotanical methods such as initial investigations, sample collections, and detailed records of the use a society makes of plants has been the starting point for many successful novel drug discovery projects. Ethnobotanists make information about this local knowledge and cultural practices available to bioscientists. The discovery of the proven anticancer drug Vincristine is an interesting history to reflect on it. *Catharanthus roseus* or known as Madagascar periwinkle has, since a long time ago, been used to treat various diseases traditionally, from minor symptoms such as headache to diabetes remedy. In 1960, Robert Noble and Charles Beer have isolated alkaloid vincristine from these ornamental plants. Further assay revealed that these ayurvedic plants exhibit a cytotoxic effect by microtubule dynamic inhibition, causing the mitotic spindle damage. Consequently, it inhibits mitosis and leading cancer cells to apoptosis (Lichota et al. 2018).

Cibodas Botanic Gardens (CBG) located in West Java has plant collection of 237 families, consisting of 949 genera, 1978 species, and 11428 plant living specimens (Registration and Collection Unit of CBG 2020; unpublished data). Such species have the potentials to be developed for various uses, such as fruit crops (Normasiwi and Surya 2016), sources of timber (Wahyuni et al. 2008), exudates (Muhaimin and Nurlaeni 2018), natural dyes (Efendi et al. 2017), ornamental plants (Putri et al. 2019, unpublished data), and medicinal plants (Nikmatullah et al. 2019). Several medicinal plants are known to have potential properties as anticancer drug, including *Taxus sumatrana* which contains paclitaxel (Muhaimin 2016); *Mentha* x *piperita* and *Rotheca serrata* (Lamiaceae) (Handayani 2015); *Frullania* sp., *Heteroscyphus argutus*, *Pogonatum cirratum*, and *Marchantia paleacea* (Bryophyte) (Nadhifah et al. 2018); *Alnus japonica, Garcinia parviflora, Gnetum gnemonoides, Mangifera laurina, Syzygium cf. discophorum*, and *Talinum paniculatum* from Medicinal Thematic Garden (Nikmatullah et al. 2019). However, until 2019 there has been no comprehensive exploration of the CBG collection that demonstrates anticancer properties.

This research was conducted to inventory and categorize plant collections in CBG that harbor anticancer properties in a detailed and comprehensive manner. The data resulted from this study is expected to serve as baseline information for further research to assess plant secondary metabolites for anticancer treatments, including phytochemical profiling and extraction method, *in vitro* assay to cancer cell models, *in vivo* assay to animal models, *in silico* assay as treatment simulation, or plant tissue culture for anticancer metabolite production.

MATERIALS AND METHODS

Study area

This research conducted in Cibodas Botanic Gardens (CBG) located at Cianjur District, West Java, Indonesia. CBG is a botanical garden managed by the Indonesian Institute of Sciences (LIPI). Besides having an *ex-situ* conservation role, CBG also has the function of research and utilization of tropical floras, especially wet plateau plants. Data investigation regarding the potential of plants cytotoxicity against cancer was carried out through online reference searches.

Procedures

In order to collect information about plant cytotoxicity against cancer, we used keywords: “plant cytotoxicity”, “herbs for cancer”, “phytotoxicity”, “plant-derived chemoprevention”, “medicinal plant for cancer”, “anticancer natural drug”, “plants secondary metabolite for anticancer”, “plants with anticancer property”, and “IC_{50} of plant metabolite” in international databases, such as ScienceDirect, PubMed, and Scopus, and database of natural products and fractional extracts for cancer treatment that has been established by previous researchers, such as NPACT (Mangal et al. 2013) and NPCARE (Choi et al. 2017). Searches were limited to articles in English and Indonesian language with the research interval period from 1990 to 2020. The scientific name of the plant species mentioned in the references was recorded and verified for their existence in the CBG through the garden collection data. The compilation of plant database of CBG with anticancer properties was developed by completing the following data: family of plant, scientific name of plant species, vernacular name, cancer cell line, extraction method, IC_{50}, reference, anticancer activity category, plant origin, conservation status, and locality at CBG. IC_{50} (50-percent Inhibitory Concentration) selected as the cytotoxic parameter in *in vitro* assay; as the initial procedure for screening anticancer drug candidates.

Data analysis

Potential anticancer plants were classified into four categories based on National Cancer Institute guidelines: Class I for plants with strong activity against cancer cell line, Class II for moderate activity, Class III for inactive and Class IV for plants with insufficient IC_{50} data but mentioned has anticancer compound in literature (Jabit et al. 2009, Alabsi et al. 2016). Class I was divided into four subclasses to observe the selectivity index: I.A for plants that their pure extract (sub-fraction method) have $IC_{50} \leq 4$ µg/ml against at least three cancer line cells, I.B for pure extracts that have IC50 ≤ 4 µg/ml against one or two cancer line cell(s), I.C for plants that their crude extract has $IC_{50} \leq 10$ µg/ml against at least three cancer line cells, and I.D for crude extracts that have $IC_{50} \leq 10$ µg/ml against one or two cancer line cell(s). Then, Class II is for plants that pure or crude extract that has $10 > IC_{50} > 100$ µg/ml and class III for $IC_{50} \geq 100$ µg/ml. Plant species belonged to Class I.A and not listed as threatened species according to The IUCN

Red List of Threatened Species™ assessment were recommended for further studies.

RESULTS AND DISCUSSION

Family distribution of plant with anticancer properties

We found 90 families that consisted of 291 species of the collection of CBG that have anticancer properties according to the literature research we conducted (for detailed information, see Table 3 in appendix section). The families with the largest number of species are as follows: Lauraceae (21 species), Leguminosae (20 species), Meliaceae (17 species), Myrtaceae (13 species), Moraceae (13 species), Cupressaceae (11 species), Asparagaceae (10 species), Euphorbiaceae (10 species), Compositae (9 species), Clusiaceae (8 species), Lamiaceae (8 species), Apocynaceae (7 species), Adoxaceae (6 species), Amaryllidaceae (6 species), and Elaeocarpaceae (6 species). The other 75 families consisted of less than five species of plant per family. The distribution of plant families that have anticancer properties from CBG is shown in Figure 1.

Plant categories based on their cytotoxicity activities (IC_{50})

Our result showed that based on cytotoxic activities (IC_{50}), plants belonged to Class of I, II, III, and IV consisted of 93, 100, 36, and 62 species, respectively, or 32%, 34%, 13%, and 21% in percentage, respectively. Class I is divided into four subclasses: 30 species as I.A, 27 species as I.B, 12 species as I.C, and 24 species as I.D. The categories of plants based on their cytotoxicity against cancer cells are displayed in Figure 2 and the species are listed in Table 1.

Discussion

Among plant collection in Cibodas Botanic Garden, Lauraceae is the family consisting of the largest number of species with anticancer potential resources, dominated by the genus *Cinnamomum*, i.e. *C. burmanii, C. camphora, C. cassia, C. iners, C. subavenium,* and *C. zeylanicum*; *Cryptocarya*, including *C. chinensis, C. costata, C. crassinervia, C. konishii, C. laevigata,* and *C. strictifolia*; and *Litsea*, including *L. cubeba, L. elliptica, L. garciae, L. mappacea,* and *L. monopetala*. Actually, CBG still has another species of *Cinnamomum* collections (i.e. *C. sintok, C. heyneanum, C. culitlawan, C. rhynchophyllum, C. javanicum, C. porrectum,* and *C. eymae*); *Cryptocarya* (*C. affinis, C. ferea, C. densilora, C. gigantocarpa,* and *C. vulgaris*); and *Litsea* (*L. ferruginea, L. lanceolata, L. grandis, L. javanica, L. tomentosa, L. cassiaefolia, L. firma, L. oppositifolia, L. noronhae, L. umbellata, L. deccanensis, L. insignis, L. grisea, L. castanea, L. accendetoides, L. deccanensis, L. leefeana, L. ochraceae,* and *L. diversifolia*).

Considering seven species of *Cinnamomum*, six species of *Cryptocarya*, and five species of *Litsea* have the potency as anticancer with strong and moderate categories, it is possible that other species within these families have similar properties. However, there are no references yet that tested the anticancer potency from these species. Shen et al. (2014) stated that Lauraceae is a potential resource for nontoxic compounds that activate the nuclear factor erythroid 2-related factor 2/antioxidant response element (Nrf2/ARE) pathway. Nrf2 plays a key role in binding with ARE sequences then activates the transcription of many cytoprotective genes. Nrf2/ARE pathway induction has been recognized as strategy for blocking or slowing cancer premalignant tumors, so-called chemoprevention as defense mechanism (Shen et al. 2014).

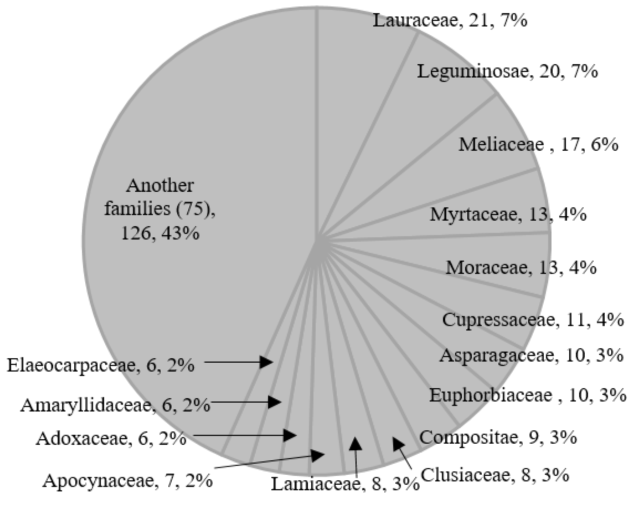

Figure 1. The distribution of plant families that have anticancer properties from CBG collection

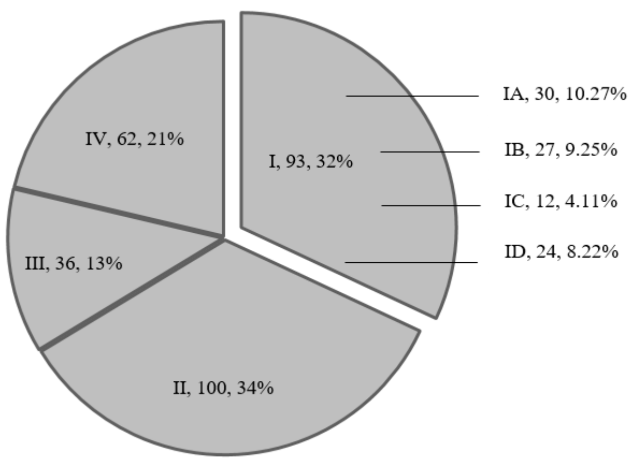

Figure 2. Plant categories based on their IC_{50}

Table 1. Plant categories based on their cytotoxicity activities (IC_{50})

Plant categories			
I	**II**	**III**	**IV**
I.A	*Acalypha wilkesiana*	*Acacia caffra*	*Acalypha hispida*
Acacia farnesiana	*Achillea millefolium*	*Acanthus montanus*	*Achillea ptarmica*
Aglaia edulis	*Acorus calamus*	*Ardisia crenata*	*Agapanthus africanus*
Aglaia elliptica	*Aglaia angustifolia*	*Areca vestiaria*	*Agave attenuata*
Aglaia silvestris	*Aglaia eximia*	*Asclepias curassavica*	*Aglaia lawii*
Artocarpus elasticus	*Aglaia odorata*	*Bauhinia variegata*	*Aglaia odoratissima*
Bauhinia strychnifolia	*Alangium chinense*	*Bixa orellana*	*Aglaia tomentosa*
Buxus microphylla	*Alnus japonica*	*Cratoxylum formosum*	*Alangium javanicum*
Calophyllum soulattri	*Aloe ferox*	*Cupressus sempervirens*	*Aleurites moluccanus*
Cerbera manghas	*Aloe vera*	*Decaspermum fruticosum*	*Aloe arborescens*
Cocculus orbiculatus	*Alstonia angustifolia*	*Dracaena draco*	*Aristolochia trilobata*
Cryptocarya chinensis	*Ardisia crispa*	*Elaeocarpus glaber*	*Bauhinia integrifolia*
Cryptocarya konishii	*Artocarpus altilis*	*Embelia ribes*	*Capsicum annuum*
Cryptocarya laevigata	*Artocarpus heterophyllus*	*Ficus benjamina*	*Cibotium barometz*
Dalbergia parviflora	*Blechnum orientale*	*Ficus hirta*	*Coccoloba uvifera*
Diospyros discolor	*Buddleja davidii*	*Ichnocarpus frutescens*	*Coffea canephora*
Erythrina abyssinica	*Buxus papillosa*	*Leea indica*	*Crinum abyssinicum*
Etlingera elatior	*Caesalpinia gilliesii*	*Litsea mappacea*	*Cryptocarya strictifolia*
Ficus fistulosa	*Caesalpinia spinosa*	*Mahonia fortunei*	*Cyperus alternifolius*
Garcinia x *mangostana*	*Camellia sinensis*	*Morus nigra*	*Dillenia serrata*
Gmelina arborea	*Catha edulis*	*Myrica esculenta*	*Diospyros celebica*
Hemerocallis fulva	*Centella asiatica*	*Oroxylum indicum*	*Elaeocarpus densiflorus*
Jatropha gossypiifolia	*Cestrum nocturnum*	*Passiflora suberosa*	*Elaeocarpus petiolatus*
Panax ginseng	*Cheilocostus speciosus*	*Phaleria macrocarpa*	*Elaeocarpus serratus*
Podocarpus macrophyllus	*Chisocheton lasiocarpus*	*Pinus merkusii*	*Elaeocarpus sylvestris*
Psidium cattleianum	*Cinnamomum camphora*	*Pinus yunnaennsis*	*Equisetum ramosissimum*
Sansevieria ehrenbergii	*Cinnamomum iners*	*Polyalthia subcordata*	*Eucalyptus globulus*
Tacca chantrieri	*Cinnamomum burmanni*	*Rhodamnia cinerea*	*Eucomis comosa*
Toona sinensis	*Cinnamomum zeylanicum*	*Rotheca serrata*	*Euphorbia milii*
Viburnum odoratissimum	*Citrus medica*	*Strobilanthes cernua*	*Ficus religiosa*
Viburnum sambucinum	*Clerodendrum trichotomum*	*Syzygium polyanthum*	*Flemingia macrophylla*
I.B	*Colletia paradoxa*	*Taraxacum campylodes*	*Garcinia dioica*
Acacia tenuifolia	*Crinum × powellii*	*Toona ciliata*	*Garcinia latissima*
Aglaia argentea	*Cryptocarya crassinervia*	*Uvaria grandiflora*	*Gerbera jamesonii*
Aglaia forbesii	*Cupressus lusitanica*	*Viburnum cylindricum*	*Hemerocallis minor*
Artocarpus lanceifolius	*Derris elliptica*	*Yucca gloriosa*	*Hymenocallis speciosa*
Camptotecha acuminata	*Dioscorea bulbifera*		*Iris pseudacorus*
Cananga odorata	*Diospyros kaki*		*Juniperus procumbens*
Chisocheton patens	*Dodonaea viscosa*		*Leonurus cardiaca*
Cinnamomum cassia	*Eclipta prostrata*		*Lindera polyantha*
Cinnamomum subavenium	*Elaeocarpus reticulatus*		*Litsea elliptica*
Cinnamomum verum	*Erythrina crista-galli*		*Litsea monopetala*
Clausena excavata	*Erythrina fusca*		*Macaranga triloba*
Cryptocarya costata	*Eucalyptus microcorys*		*Mentha canadensis*
Cryptomeria japonica	*Eucalyptus robusta*		*Opuntia robusta*
Dichroa febrifuga	*Eugenia uniflora*		*Phyllostachys edulis*
Eriobotrya japonica	*Ficus deltoidea*		*Pinus parviflora*
Euphorbia pulcherrima	*Ficus drupacea*		*Pterocarpus indicus*
Garcinia lateriflora	*Garcinia celebica*		*Pterocarya stenoptera*
Hernandia nymphaeifolia	*Garcinia rostrata*		*Quercus acuta*
Hibiscus syriacus	*Gardenia jasminoides*		*Salvia splendens*
Hypericum uralum	*Gleditsia sinensis*		*Sambucus javanica*
Macaranga tanarius	*Glochidion eriocarpum*		*Sanguisorba minor*
Morus alba	*Gnetum gnemon*		*Shorea platyclados*
Ochrosia elliptica	*Hedychium coronarium*		*Sophora tetraptera*
Olea europea	*Hibiscus rosa-sinensis*		*Stephania hernandiifolia*
Pityrogramma calomelanos	*Hypericum oblongifolium*		*Styrax benzoin*
Taxus sumatrana	*Iris halophila*		*Ternstroemia gymnanthera*
Ziziphus jujuba	*Juniperus chinensis*		*Thuja standishii*
I.C	*Kalanchoe beharensis*		*Viburnum suspensum*
Alstonia scholaris	*Lantana camara*		*Yucca glauca*
Crinum zeylanicum	*Laurus nobilis*		*Ziziphus oenopolia*
Dillenia philippinensis	*Liquidambar formosana*		

Enterolobium contortisiliquum	*Litsea cubeba*
Glochidion zeylanicum	*Litsea garciae*
Goniothalamus macrophyllus	*Macaranga rhizinoides*
Hamelia patens	*Marantodes pumilum*
Juniperus virginiana	*Mentha* x *piperita*
Melastoma malabathricum	*Murraya paniculata*
Piper aduncum	*Musa acuminata*
Symplocos cochinchinensis	*Myrica rubra*
Tabebuia hypoleuca	*Opuntia microdasys*
I.D	*Persea americana*
Agave americana	*Phyllanthus emblica*
Agave salmiana	*Phyllostachys nigra*
Caesalpinia sappan	*Pinus kesiya*
Callistemon citrinus	*Pistacia chinensis*
Coix lacryma-jobi	*Plantago lanceolata*
Cola acuminata	*Platycladus orientalis*
Cola nitida	*Polyalthia rumphii*
Crinum macowanii	*Psidium guajava*
Croton argyratus	*Salvia farinacea*
Diplazium esculentum	*Sambucus nigra*
Eucomis autumnalis	*Sandoricum koetjape*
Ficus septica	*Sarcandra glabra*
Flacourtia rukam	*Shorea javanica*
Garcinia dulcis	*Smallanthus sonchifolius*
Juniperus procera	*Smilax zeylanica*
Lobelia laxiflora	*Sophora tomentosa*
Melaleuca alternifolia	*Syzygium cumini*
Schima wallichii	*Syzygium jambos*
Schinus terebinthifolia	*Tecoma stans*
Schinus weinmannifolius	*Terminalia calamansanay*
Serenoa repens	*Thuja occidentalis*
Tabernaemontana macrocarpa	*Toona sureni*
Thujopsis dolabrata	*Vaccinium varingiaefolium*
Tithonia diversifolia	*Vernonia amygdalina*
	Vernonia arborea
	Viola odorata
	Yucca aloifolia

Note: Class I for plants with strong activity against cancer cell line, Class II for moderate activity, Class III for inactive and Class IV for plants with insufficient IC_{50} data but mentioned has anticancer compound in literature (Jabit et al. 2009, Alabsi et al. 2016)

From Leguminosae family, several genera that have anticancer properties include *Acacia, Bauhinia, Caesalpinia, Dalbergia, Derris, Enterolobium, Erythrina, Flemingia, Gleditsia, Pterocarpus*, and *Sophora*. Meliaceae has *Aglaia, Chisocheton, Sandoricum*, and *Toona*. Even there are eleven species of *Aglaia* plant with anticancer properties, making it the genus with the largest number of species compared to the others. Several major families and other dominant genera are Myrtaceae (*Callistemon, Eucalyptus, Eugenia, Decaspermum, Melaleuca, Psidium, Rhodamnia*, and *Syzygium*); Moraceae (*Artocarpus, Ficus*, and *Morus*), Cupressaceae (*Cryptomeria, Cupressus, Juniperus, Platycladus, Thuja*, and *Thujopsis*); Asparagaceae (*Agave, Dracaena, Eucomis, Sansevieria*, and *Yucca*); and Euphorbiaceae (*Euphorbia, Acalypha, Aleurites, Croton, Jatropha*, and *Macaranga*). Several species of *Ficus* from Gunung Gede Pangrango National Park, which is located near CBG, have been observed as anticancer sources, such as *F. laevigata, F. lepicarpa, F. obscura, F. ribes*, and *F. variegata* (Arbiastutie et al. 2017).

The majority of plants with anticancer potentials in CBG were classified as having strong and moderate cytotoxic activities (Class I and II), with proportion of 32% and 34%, respectively. Even paclitaxel from *Taxus sumatrana* is already at the commercialization stage, sold under the brand name Taxol® since 1993 (Seca et al. 2017) and the extract from *Serenoa repens* has been formulated as Permixon®, a commercial drug for benign prostatic hyperplasia (BPH) treatment (Habib et al. 2005; Zhou et al. 2015). Our findings suggest that plant collection in CBG has a great potential to be further explored for natural-based drug discovery and development, particularly for anticancer. This is in line with the history of early development of CBG which was aimed for the domestication of medicinal plants, most notably was quinine. Similar to botanical gardens in the world, such as Kew, Singapore, Peradeniya, Calcutta, and Sidney, their initial development was driven by the goal of domestication of industrial and medicinal plants such as rubber, tea, coffee, and quinine (Smith 2019).

The listed species in this study have a history of successful isolation of pure active compounds with strong activity against more than three model cancer cell lines (Class I.A) which are dominated by *Aglaia, Cryptocarya*, and *Viburnum*. The active rocaglaol compound isolated from various *Aglaia* was known to produce very high cytotoxicity compared to the positive control paclitaxel and camptothecin (Huspa 2009). *Cryptocarya sinensis* not only actively inhibits cancer cells but also the active compound dehydrophenanthroindolizidine contains a significant anti-HIV activity (T.S. Wu et al. 2012). *C. laevigata* contains the active compound (-) - neocaryachine which is also toxic to multidrug-resistant sublines through the double-strand breaks DNA induction mechanism (Suzuki et al. 2018).

Several plant secondary metabolites that have been widely studied as anticancer compounds include vincristine, viscotoxin, paclitaxel, camptothecin, combrestatin, podophyllotoxin, geniposide, colchicine, artesunate, homoharringtonine, salvicine, ellipticine, roscovitine, maytansberine, thapsicine acid, bruceantin, flavonols, crocetin, gingerol, lycopene, and ingenol mebutate (Seca et al. 2017; Iqbal et al. 2017; Lichota et al. 2018). Plants in CBG that contain these compounds include *Taxus sumatrana* (paclitaxel), *Camptotecha acuminate* (camptotechin), *Juniperus procumbens* and *Hernandia nymphaeifolia* (podophyllotoxin), *Gardenia jasminoides* (geniposide or genipin), *Buddleja davidii* (colchicine), *Salvia* (salvicine), *Ochrosia elliptica* (ellipticine), *Dillenia serrata*, *Acacia farnesiana,* and *Eriobotrya japonica* (betulinic acid), *Capsicum annuum* (capsaicin), *Thuja occidentalis* (flavonol), and *Euphorbiaceae* (ingenol mebutate). *Combretum* sp. at CBG as a potential source of combretastatin, is not included yet in the database because it is not completely taxonomically identified, while *Artemisia annua* (artesunate) is not yet a CBG collection despite the related research was initiated at CBG's Medicinal Thematic Garden (unpublished data). In CBG, there are several *Berberis* species, however, there has been no research on the berberine content which has the potential as an anticancer. Unfortunately, there is no *Catharanthus roseus* (formerly *Vinca rosea*) that its vincristine isolate is approved for clinical purposes as cancer treatment, *Viscum album* (source of viscotoxin), *Cephalotaxus* (homoharringtonine), *Raphanus sativus* (roscovitine), *Maytenus serrata* (maytansine), *Thapsia garganica* (thapsigargin), *Brucea antidysenterica* or *B. javanica* (bruceantin), *Crocus sativus* or known as saffron (crocetin), *Zingiber officinale* (gingerol) but another *Zingiber* was found at CBG; tomatoes, watermelons, and red carrots (lycopene). It could be a suggestion for CBG to collect these plants.

Some plants of CBG collection contain anticancer compounds, however, the extracts of these plants have not been tested against cancer line. These plants include *Viburnum suspensum* (contains vibsanin), *Agapanthus africanus* (isoliquiritigenin), *Hymenocallis speciosa* (narciclasine (lycoricidinol) and pancratistatin), *Aristolochia trilobata* (lusicininal and rubraxanthone), *Garcinia latissima* (kaemferol), *Achillea ptarmica* (pellitorine), *Alangium javanicum* (javanicides and alangicides), *Dillenia serrata* (koetjapic acid and betulinic acid*), Shorea platyclados* (resveratrol), *Diospyros celebica* (plumbagin), *Elaeocarpus petiolatus* (cucurbitacin), *E. serratus* (farnesol), *E. sylvestris* (brevifolin), *Quercus acuta* (chlorogenic acid), *Pterocarya stenoptera* (pterocarmin A), *Mentha canadensis* (rosmarinic acid and cathecin), *Salvia splendens* (quercetin), *Phyllostachys edulis* (tricin and 7-O-methyl-tricin), *Ziziphus oenopolia* (betulinic acid), *Coffea canephora* (kahweol, cafestol, 16-O-methylcafestol), and *Aloe ferox* (aloe emodine, emodine, aloin). It is therefore suggested to further exploration of their anticancer activities..

Nature supply a huge number of compounds that provide new hope for medical uses, including cancer treatment. The trade-in plant-derived drugs generates astonishing economic value, which is estimated of US $ 100 billion at current state and still grows to US $ 5 trillion by 2050 (Greenwell et al. 2015). However, the availability of anticancer compounds in nature is limited and technically difficult to be isolated, makes it difficult to meet the demand of pharmaceutical industries. The solubility of natural anticancer compounds, such as paclitaxel and curcumin, is also low, makes it impractical for human cells to absorb. In the use of natural materials to become effective anticancer compounds, it is necessary to modify, formulate and manufacture semisynthetic or synthetic analogs, as well as a tissue culture approach for the massive production of secondary metabolites (Fridlender et al. 2015). Thanks to the advances in plant biotechnology, pharmacology, as well as nanotechnology that makes natural resource research for medicinal sources accelerating (Seca et al. 2017).

On the other hand, the exploitation of plant-derived drugs risks their existence in the wild in the long term, therefore proper management conservation strategies to fulfill demand for medicinal plants with the assurance of their sustainability becomes necessity (Seca et al. 2017). For example, *Taxus sumatrana, Shorea javanica, Shorea platyclados*, and *Pterocarpus indicus* are classified as endangered (EN) category of IUCN Red List. *Dracaena draco, Kalanchoe beharensis, Diospyros celebica, Aglaia angustifolia*, and *Pinus merkusii* are categorized as vulnerable (VU). Whereas *T. sumatrana* is a strong category of anticancer sources, *A. angustifolia*, *K. beharensis*, and *S. javanica* have moderate anticancer properties. Instead of encouraging the massive utilization of them, better to find other resources because there are still many species listed here with strong anticancer potency but excluded from threatened plants.

It should be remembered that the development of natural-based anticancer drugs is a long, complicated, expensive, and uncertain process to be successful. The development of an anticancer drug is started from *in vitro*, *in vivo*, to clinical testing and it takes a long time. It is clear that *in vitro* testing is a preliminary stage only with all its limitations.. However, there is no clinical trial without going through the preliminary testing stages. This study is limited by the categorization based on cytotoxicity to particular cancer cell lines, no discussed selectivity index among cell lines. Therefore we require further investigation to compare its activity in normal cells as an important aspect to be considered in drug formulation.

ACKNOWLEDGEMENTS

The authors thank all researchers and staff of registration and collection unit of the CBG for their kindness and help during the research.

REFERENCES

Abd Wahab W, Adzmi AN. 2017. The investigation of cytotoxic effect of *Cinnamomum zeylanicum* extracts on human breast cancer cell line (MCF7). Sci Heritage J 1 (2): 23-28.

Abdel-Mageed WM, Al-Wahaibi LH, Gouda YG, Al-Saleem MSM, El-Gamal AA, Basudan OA, Alsaid MS, Al-Massarani SM, Abdel-Kader MS. 2019. Contortisiliosides H–M: Triterpenoid saponins from *Enterolobium contortisiliquum* and their biological activity. Ind Crops Prod 139.

Abebe W. 2016. An overview of Ethiopian traditional medicinal plants used for cancer treatment. Eur J Med Plants 14 (4): 1-16.

Abida P, De Britto AJ, Antoney J, Raj TLS. 2016. Evaluation of *in vitro* anticancer activity of *Symplocos cochinchinensis* (Lour.) S. Moore bark. Int J Herb Med 4 (6): 117-119.

Abou-Elella F, Mourad R. 2015. Anticancer and antioxidant potential of ethanolic extracts of *Phoenix dactylifera, Musa acuminata* and *Cucurbita maxima*. Res J Pharm Biol Chem Sci 6 (1): 710-720.

Abu Bakar MF, Ahmad NE, Suleiman M, Rahmat A, Isha A. 2015. *Garcinia dulcis* fruit extract induced cytotoxicity and apoptosis in HepG2 liver cancer cell line. BioMed Res Int 2015: 1-10.

Abu-Dahab R, Kasabri V, Afifi FU. 2014. Evaluation of the volatile oil composition and antiproliferative activity of *Laurus nobilis* L. (Lauraceae) on breast cancer cell line models. Rec Nat Prod 8 (2): 136-147.

Adnan M. 2019. Bioactive potential of essential oil extracted from the leaves of *Eucalyptus globulus* (Myrtaceae). J Pharmacog PhytoChem 8 (1): 213-216.

Afonso AF, Pereira OR, Fernandes ÂSF, Calhelha RC, Silva AMS, Ferreira ICFR, Cardoso SM. 2019. The health-benefits and phytochemical profile of *Salvia apiana* and *Salvia farinacea* var. Victoria Blue decoctions. Antioxidants 8 (8): 241-244.

Agarwal P, Chettiar S, Adhvaryu M. 2014. Anticancer activity of *Gerbera jamesonii* on A549-Adeno-Carcinomic human alveolar basal epithelial cell line-an *in vitro* study. J Altern Complement Med 20 (5): A36-A36.

Aguilar-Meléndez A, Azurdia C, Cerén-López J, Menjívar J, Contreras A. 2020. *Capsicum annuum* (amended version of 2019 assessment). The IUCN Red List of Threatened Species

Ahmed A, Ali M, El-Kholie E, El-Garawani I, Sherif N. 2016. Anticancer activity of *Morus nigra* on human breast cancer cell line (MCF-7): the role of fresh and dry fruit extracts. J BioSci Appl Res 2 (6): 352-361.

Aisha AFA, Alrokayan SA, Abu-Salah KM, Darwis Y, Abdul Majid AMS. 2009. *In vitro* cytotoxic and apoptotic properties of the stem bark extract of *Sandoricum koetjape* on breast cancer cells. Int J Cancer Res 5 (3): 123-129.

Alabsi AM, Lim KL, Paterson IC, Ali-Saeed R, Muharram BA. 2016. Cell cycle arrest and apoptosis induction via modulation of mitochondrial integrity by Bcl-2 family members and caspase dependence in *Dracaena cinnabari*-treated H400 human oral squamous cell carcinoma. BioMed Res Int 2016: 1-13.

Aladesanmi AJ, Famuyiwa FG, Oriola AO, Oguntimehin SA, Aiyedun PO, Arthur G. 2019. Cytotoxic activity of selected Nigerian medicinal plants. J Herbs Spices Med Plants 26 (2): 203-217.

Al-Gara'awi NI, Abu-Serag NA, Alee Shaheed KA, Bahadly ZKA. 2019. Analysis of bioactive phytochemical compound of (*Cyperus alternifolius* L.) By using gas chromatography-mass spectrometry. IOP Conf Ser: Mater Sci Eng 571, 012047.

Al-Khdhrairawi AAQ. 2017. Isolation, Structure Characterization and Cytotoxicity Assessment of Alkaloids from *Ficus fistulosa* var. tengerenisis (Miq.) Kuntze. [Thesis]. University of Nottingham Malaysian Campus. [Malaysia]

Allado-Ombat LA, Teves FG. 2015. Anti-angiogenic and non-cytotoxic potential of aqueous and acetone extracts of the stem of Philippine Forest Liana, *Bauhinia integrifolia* Roxb. Int J BioSci 7 (5): 184-191.

Alonso-Castro AJ, Villarreal ML, Salazar-Olivo LA, Gomez-Sanchez M, Dominguez F, Garcia-Carranca A. 2011. Mexican medicinal plants used for cancer treatment: pharmacological, phytochemical and ethnobotanical studies. J Ethno Pharmacol 133 (3): 945-972.

Alsanosy R, Alhazmi HA, Sultana S, Abdalla AN, Ibrahim Y, Al Bratty M, Banji D, Khardali I, Khalid A. 2020. Phytochemical screening and cytotoxic properties of ethanolic extract of young and mature khat leaves. J Chem 2020: 1-9.

Alsaraf M, Mohammad MH, Al-Shammari AM, Abbas IS. 2019. Selective cytotoxic effect of *Plantago lanceolata* L. against breast cancer cells. J Egypti Nat Cancer Inst 31: 10.

Althaus J, Kaiser M, Brun R, Schmidt T. 2014. Antiprotozoal activity of *Achillea ptarmica* (Asteraceae) and its main alkamide constituents. Molecules 19 (5): 6428-6438.

Amaral RG, Gomes SVF, Luciano MC dos S, Ó Pessoa C do, Andrade LN, Severino P, Brandão GC, Bomfim LM, Soares MBP, Bezerra DP, David JM, Carvalho AA. 2019. Cytotoxic potential of 14 Passiflora species against cancer cells. J Med Plants Res 13 (7): 157-166.

Ambrož M, Boušová I, Skarka A, Hanušová V, Králová V, Matoušková P, Szotáková B, Skálová L. 2015. The influence of sesquiterpenes from *Myrica rubra* on the antiproliferative and pro-oxidative effects of doxorubicin and its accumulation in cancer cells. Molecules 20 (8): 15343-15358.

Anjarsari EY, Kristina N, Larasati YA, Putri DDP, Meiyanto E. 2013. Synergistic effect of cinnamon essential oil (*Cinnamomum burmannii*) and doxorubicin on T-47D cells correlated with apoptosis induction. Indones J Cancer Chemoprevention 4 (1): 450-456.

Aqil F, Gupta A, Munagala R, Jeyaprakash J, Kausar H, Sharma R, Singh IP, Gupta RC. 2012. Antioxidant and antiproliferative activities of anthocyanin/ellagitannin-enriched extracts from *Syzygium cumini* L. ('jamun', the Indian Blackberry). Nutr Cancer 64 (3): 428-438.

Arbiastutie Y. 2017. The Potential of understorey plants from Gunung Gede Pangrango National Park (West Java, Indonesia) as cervix anticancer agents. Biodiversitas 18 (1): 109-115.

Arbiastutie Y. 2017. The Potential of understorey plants from Gunung Gede Pangrango National Park (West Java, Indonesia) as cervix anticancer agents. Biodiversitas 18 (1): 109-115.

Areces-Mallea AE. 1998. *Tabebuia hypoleuca*. The IUCN Red List of Threatened Species

Arullapan S, Muhamad S, Zakaria Z. Cytotoxic activity of the leaf and stem extracts of *Hibiscus rosa-sinensis* (Malvaceae) against leukaemic cell line (K-562). Trop J Pharm Res 12 (5): 743-746.

Asep S, Hening H, Gema PS, Gigih S, Chicy Widya M, Sahidin S. 2017. Anticancer activity of jatrophone an isolated compound from *Jatropha gossypifolia* plant against hepatocellular cancer cell HEP G2 1886. Biomed Pharmacol J 10 (02): 667-673.

Ashmawy N, Ashour M, Wink M, El-Shazly M, Chang F-R, Swilam N, Abdel-Naim A, Ayoub N. 2016. Polyphenols from *Erythrina crista-galli*: structures, molecular docking and phytoestrogenic activity. Molecules 21 (6): 726-739.

Ashraf A, Sarfraz RA, Rashid MA, Mahmood A, Shahid M, Noor N. 2016. Chemical composition, antioxidant, antitumor, anticancer and cytotoxic effects of *Psidium guajava* leaf extracts. Pharm Biol 54 (1): 1971-1981.

Ashton P. 1998. *Shorea platyclados*. The IUCN Red List of Threatened Species

Awang K, Hadi AHA, Saidi N, Mukhtar MR, Morita H, Litaudon M. 2008. New phenantrene alkaloids from *Cryptocarya crassinervia*. Fitoterapia 79 (4): 308-310.

Awang K, Loong X-M, Leong KH, Supratman U, Litaudon M, Mukhtar MR, Mohamad K. 2012. Triterpenes and steroids from the leaves of *Aglaia exima* (Meliaceae). Fitoterapia 83 (8): 1391-1395.

Bai S-T, Zhu G-L, Peng X-R, Dong J-R, Yu M-Y, Chen J-C, Wan L-S, Qiu M-H. 2016. Cytotoxicity of triterpenoid alkaloids from *Buxus microphylla* against human tumor cell lines. Molecules 21: 1125-1130.

Baloch E. 2011. *Gnetum gnemon*. The IUCN Red List of Threatened Species

Bañares A. 1998. *Dracaena draco*. The IUCN Red List of Threatened Species

Bandopadhyaya S, Ramakrishnan M, Thylur RP, Shivanna Y. 2015. *In-vitro* evaluation of plant extracts against colorectal cancer using HCT-116 Cell Line. Int J Plant Sci Ecol 1 (3): 107-112.

Bárcenas LR, Goettsch BK, Gómez-Hinostrosa C, Guadalupe Martínez J. Sánchez E. 2017. *Opuntia microdasys* (amended version of 2013 assessment). The IUCN Red List of Threatened Species 2017.
Barstow M. 2018. *Pterocarpus indicus*. *The IUCN Red List of Threatened Species* Barstow, M. 2018. *Sandoricum koetjape*. The IUCN Red List of Threatened Species.
Barstow M. 2018. *Shorea javanica*. The IUCN Red List of Threatened Species.
Barstow M. 2018. *Toona ciliata*. The IUCN Red List of Threatened Species.
Barstow M. 2018. *Toona sureni*. The IUCN Red List of Threatened Species Barstow, M. 2019. *Toona sinensis*. The IUCN Red List of Threatened Species.
Baskar AA, Ignacimuthu S, Michael GP, Al Numair K. 2010. Cancer chemopreventive Potential of luteolin-7-o-glucoside isolated from *Ophiorrhiza mungos* Linn. Nutr Cancer: 1-9.
Berkov S, Romani S, Herrera M, Viladomat F, Codina C, Momekov G, Ionkova I, Bastida J. 2011. Antiproliferative alkaloids from *Crinum zeylanicum*: alkaloids from *Crinum zeylanicum*. Phytotherapy Res 25 (11): 1686-1692.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Artocarpus elasticus*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Cryptocarya laevigata*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Ficus drupacea*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Rhodamnia cinerea*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Sambucus javanica*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2018. *Tabernaemontana macrocarpa*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Buxus microphylla*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Dodonaea viscosa*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Elaeocarpus sylvestris*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Enterolobium contortisiliquum*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Erythrina abyssinica*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Erythrina crista-galli*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Euphorbia pulcherrima*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Ficus benjamina*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Ficus septica*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Garcinia dulcis*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Jatropha gossypiifolia*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Quercus acuta*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Syzygium cumini*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Syzygium jambos* (amended version of 2018 assessment). The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Tecoma stans*. The IUCN Red List of Threatened Species.
BGCI & IUCN SSC Global Tree Specialist Group. 2020. *Vachellia farnesiana*. The IUCN Red List of Threatened Species.
BGCI, IUCN SSC Global Tree Specialist Group & Lorea Hernández F. 2019. *Piper aduncum*. The IUCN Red List of Threatened Species.
BGCI, IUCN SSC Global Tree Specialist Group & Meave JA. 2019. *Cestrum nocturnum*. The IUCN Red List of Threatened Species.
BGCI, IUCN SSC Global Tree Specialist Group, Cornejo-Tenorio G, Ibarra-Manríquez G, Lorea Hernández F. 2019. *Hamelia patens*. The IUCN Red List of Threatened Species.
Bhuyan DJ, Vuong QV, Bond DR, Chalmers AC, Bowyer MC, Scarlett CJ. 2018. *Eucalyptus microcorys* leaf extract derived HPLC-fraction reduces the viability of MIA PaCa-2 cells by inducing apoptosis and arresting cell cycle. BioMed Pharmacotherapy 105 (2018): 449-460.
Bilz M. 2013. *Achillea ptarmica*. The IUCN Red List of Threatened Species Bilz, M. 2020. *Sambucus nigra*. The IUCN Red List of Threatened Species.
Bisi-Johnson MA, Obi CL, Hattori T, Oshima Y, Li S, Kambizi L, Eloff JN, Vasaikar SD. 2011. Evaluation of the antibacterial and anticancer activities of some South African medicinal plants. BMC Complement Altern Med 11 (1): 14-18.
Byahatti SM, Bogar C, Bhat K, Dandagi G. 2018. Evaluation of anticancer activity of *Melaleuca alternifolia* (i.e., tea tree oil) on colon cancer cell line (HT29) - an *in vitro* study. J Adv Clin Res Insights 5 (4): 99-103.
Cahyana AH, Ardiansah B. 2016. Antioxidative and cytotoxic effects of prenylated stilbene derivative-rich melinjo (*Gnetum gnemon* L.) fruit rind. AIP Conference Proceedings. Int Symposium on Current Progress in Mathematics and Sci.
Cai X-H, Wang Y-Y, Zhao P-J, Li Y, Luo X-D. 2010. Dolabellane diterpenoids from *Aglaia odorata*. Phyto Chem. 71 (8-9): 1020-1024.
Canteiro C, Lucas E. 2019. *Psidium guajava*. The IUCN Red List of Threatened Species.
Carter G, Farjon A. 2013. *Thuja standishii*. The IUCN Red List of Threatened Species Carter, G. 2013. *Thujopsis dolabrata*. The IUCN Red List of Threatened Species.
Castañeda DM, Pombo LM, Urueña CP, Hernandez JF, Fiorentino S. 2012. A gallotannin-rich fraction from *Caesalpinia spinosa* (Molina) Kuntze displays cytotoxic activity and raises sensitivity to doxorubicin in a leukemia cell line. BMC Compl Altern Med 12: 38-47.
Chadburn H, Davis AP. 2017. *Coffea canephora*. The IUCN Red List of Threatened Species.
Chadburn H. 2012. *Bauhinia variegata*. The IUCN Red List of Threatened Species.
Chadburn H. 2012. *Dalbergia parviflora*. The IUCN Red List of Threatened Species.
Chahdoura H, Barreira JCM, Fernández-Ruiz V, Morales P, Calhelha RC, Flamini G, Soković M, Ferreira ICFR, Achour L. 2016. Bioactivity, proximate, mineral and volatile profiles along the flowering stages of *Opuntia microdasys* (Lehm): defining potential applications. Food Function 7 (3): 1458-1467.
Chanchal DK, Alok S, Rashi S, Bijauliya RK, Yadav RD, Sabharwal M. 2017. Various medicinal plants used in the treatment of anticancer activity. Int J Pharm Sci Res 9 (4): 1424-1429.
Chang M-Y, Shieh D-E, Chen C-C, Yeh C-S, Dong H-P. 2015. Linalool induces cell cycle arrest and apoptosis in leukemia cells and cervical cancer cells through CDKIs. Int J Mol Sci 16 (12): 28169-28179.
Cheek M. & Lawrence P. 2019. *Cola acuminata*. The IUCN Red List of Threatened Species.
Cheek M. & Lawrence P. 2019. *Cola nitida*. The IUCN Red List of Threatened Species.
Cheenpracha S, Karalai C, Rat-A-Pa Y, Ponglimanont C, Chantrapromma K. 2004. New cytotoxic cardenolide glycoside from the seeds of *Cerbera manghas*. Chem Pharm Bull 52 (8): 1023-1025.
Chen C-C, Wu J-H, Yang N-S, Chang J-Y, Kuo C-C, Wang S-Y, Kuo Y-H. 2010. Cytotoxic C 35 terpenoid cryptotrione from the bark of *Cryptomeria japonica*. Organic Lett 12 (12): 2786-2789.
Chen G, Xue J, Xu S-X, Zhang R-Q 2007. Chemical constituents of the leaves of *Diospyros kaki* and their cytotoxic effects. J Asian Nat Prod Res 9 (4): 347-353.
Chen L-G, Huang W-T, Lee L-T, Wang C-C. 2009. Ellagitannins from *Terminalia calamansanai* induced apoptosis in HL-60 cells. Toxicology *In vitro* 23 (4): 603-609.
Cho ES. 2019. Isolation, Structure Elucidation and Cytotoxic Activity of Cucurbitacins from *Elaeocarpus petiolatus*. [Thesis]. University of Nottingham Malaysian Campus. [Malaysia].
Choi H, Cho SY, Pak HJ, Kim Y, Choi J-Y, Lee YJ, Gong BH, Kang YS, Han T, Choi G, Choi Y, Lee S, Ryoo D, Park K. 2017. NPCARE: database of natural products and fractional extracts for cancer regulation. J Cheminform 9 (2): 1-9.
Choi SE, Kim KH, Kwon JH, Kim SB, Kim HW, Lee MW. 2008. Cytotoxic activities of diarylheptanoids from *Alnus japonica*. Arch Pharm Res 31 (10): 1287-1289.
Chopra MP, Mazumder PM, Sasmal D, Patro SK. 2016. Phytochemical, antioxidant and antimicrobial studies of *Salvia splendens* leaves. J Chem Pharm Res 7 (10): 724-728.

Cichewics RH, Zhang Y, Seera, NP, Nair MG. 2004. Inhibition of human tumor cell proliferation by novel anthraquinones from daylilies. Life Sci 74: 1791-1799.

Cortez AP, Menezes EGP, Benfica PL, Santos AP dos, Cleres LM, Ribeiro H de O, Lima EM, Kato MJ, Valadares MC. 2017. Grandisin induces apoptosis in leukemic K-562 cells. Braz J Pharm Sci 53 (1): 1-9.

Crowley D, Beech E, Oldfield S. 2018. *Liquidambar formosana*. The IUCN Red List of Threatened Species.

Cuccioloni M, Bonfili L, Mozzicafreddo M, Cecarini V. 2012. *Sanguisorba minor* extract suppresses plasmin-mediated mechanisms of cancer cell migration. Biochimica et Biophysica Acta 1820: 1027-1034.

Dante RAS, Ferrer RJE, Jacinto SD. 2019. Leaf extracts from *Dillenia philippinensis* Rolfe exhibit cytotoxic activity to both drug-sensitive and multidrug-resistant cancer cells. Asian Pacific J. of Cancer Prevention 20(11): 3285–3290.

de Kok R. 2019. *Cinnamomum iners*. The IUCN Red List of Threatened Species.

de Kok R. 2019. *Gmelina arborea*. The IUCN Red List of Threatened Species.

de Kok R. 2020. *Cinnamomum subavenium*. The IUCN Red List of Threatened Species.

de Kok R. 2020. *Cryptocarya costata*. The IUCN Red List of Threatened Species.

de Kok R. 2020. *Litsea elliptica*. The IUCN Red List of Threatened Species.

de Kok R. 2020. *Litsea garciae*. The IUCN Red List of Threatened Species.

de Kok R. 2020. *Litsea monopetala*. The IUCN Red List of Threatened Species.

Diantini A, Subarnas A, Lestari K, Halimah E, Susilawati Y, Supriyatna, Julaeha E, Achmad TH, Suradji EW, Yamazaki C, Kobayashi K, Koyama H, Abdulah R. 2012. Kaempferol-3-O-rhamnoside isolated from the leaves of *Schima wallichii* Korth. inhibits MCF-7 breast cancer cell proliferation through activation of the caspase cascade pathway. Oncology Lett 3: 1069-1072.

Du J, Singh H, Yi, T-H. 2016. Antibacterial, anti-biofilm and anticancer potentials of green synthesized silver nanoparticles using benzoin gum (*Styrax benzoin*) extract. Bioprocess Biosystem Eng.

Dumontet V, Thoison O, Omobuwajo OR, Martin M-T, Perromat G, Chiaroni A, Riche C, Païs M, Sévenet T, Hamid A Hadi A. 1996. New nitrogenous and aromatic derivatives from *Aglaia argentea* and *A. forbesii*. Tetrahedron 52 (20): 6931-6942.

Ee GCL, Lim CM, Rahmani M, Shaari K, Bong CFJ. 2010. Pellitorine, an active anti-cancer lead compound against HL60 and MCT-7 cell lines and microbial transformation of piperine from *Piper nigrum*. Molecules 15 (4): 2398-2404.

Efendi M, Hapitasari IG, Rustandi R, Supriyatna A. 2016. Inventarisasi tumbuhan penghasil pewarna alami di Kebun Raya Cibodas. Jurnal Bumi Lestari 16 (1): 50-58. [Indonesian]

El Hawary S, El Sayed A, Helmy MW, El Naggar EM, Marzouk HS, Bassam SM. 2018. DNA fingerprinting, biological and chemical investigation of certain Yucca species. Nat Prod Res 32 (21): 2617-2620.

El-Nashar HAS, Mostafa NM, El-Badry MA, Eldahshan OA, Singab ANB. 2019. Chemical composition, antimicrobial and cytotoxic activities of essential oils from *Schinus terebinthifolius* Raddi Growing in Egypt. Int J Pharmacog Phytochem Res 11 (3): 235-239.

El-Shiekh RA, Al-Mahdy DA, Hifnawy MS, Tzanova T, Evain-Bana, Emilie, Philippot S, Bagrel D, Abdelsattar EA. 2017. Chemical and biological investigation of *Ochrosia elliptica* Labill. cultivated in Egypt. Rec Nat Prod 11 (6): 552–557.

Emam M, El Raey MA, Eisa WH, El-Haddad AE, Osman SM, El-Ansari MA, Rabie A-GM. 2017. Green synthesis of silver nanoparticles from *Caesalpinia gilliesii* (Hook) leaves: antimicrobial activity and *in vitro* cytotoxic effect against BJ-1 and MCF7 cells. J Appl Pharm Sci 7 (8): 226-233.

Endringer DC, Taveira FSN, Kondratyuk TP. Pezzuto JM, Braga FC. 2014. Cancer chemoprevention activity of labdane diterpenes from rhizomes of *Hedychium coronarium*. Rev Bras Farmacogn 24: 408-412.

Endrini S, Marsiati H. 2008. Aktivitas antioksidan dan efek sitotoksik ekstrak kola (*Cola nitida*) pada kultur sel kanker hati (HepG-2). Jurnal Kedokteran YARSI 17 (1): 40-44.

Energy Development Corporation (EDC) 2020. *Dillenia philippinensis*. *The IUCN Red List of Threatened Species*

Evanjelene VK, Karthiga R. 2018. Chemo and bioinformatics resources for in silico drug discovery from *Acalypha hispida* beyond their traditional use. World Wide J Multidisciplinary Res Dev 4 (4): 120-129.

Fadeyi SA, Fadeyi OO, Adejumo AA, Okoro C, Myles EL. 2013. *In vitro* anticancer screening of 24 locally used Nigerian medicinal plants. BMC Complement Altern Med 13 (1): 79-87.

Falodun A, Engel N, Kragl U, Nebe B, Langer P. 2013. Novel anticancer alkene lactone from *Persea americana*. Pharm Biol 51 (6): 700-706.

Fan C, Jin H, Wu L, Zhang Y, Ye RD, Zhang W, Zhang Y. 2017. An exploration of traditional Chinese medicinal plants with anti-inflammatory activities. Evidence-Based Complement Altern Med (2017): 1-10.

Farjon A, Carter G. 2013. *Juniperus procumbens*. The IUCN Red List of Threatened Species.

Farjon A, Christian T, Rushforth K. 2013. *Pinus yunnanensis*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Cupressus sempervirens*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Juniperus chinensis*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Juniperus procera*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Juniperus virginiana*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Pinus kesiya*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Pinus merkusii*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Platycladus orientalis*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Podocarpus macrophyllus*. The IUCN Red List of Threatened Species.

Farjon A. 2013. *Thuja occidentalis*. The IUCN Red List of Threatened Species.

Fayad W, El-Hallouty SM, Meky NH, EL-Menshawi BS, Wassel GM, Hasabo AA. 2015. Evaluation of anticancer activity of some Egyptian plants showed free radical scavenging activity. Int J Pharm Tech Res 8 (3): 387-393.

Fayed SA. 2015. Chemical composition, antioxidant, anticancer properties and toxicity evaluation of leaf essential oil of *Cupressus sempervirens*. Notulae Bot Horti Agrobot Cluj-Napoca 43 (2): 320-326.

Fayemi PO, Ozturk I, Kaan D, Özcan S, Yerer MB, Dokumaci AH, Özcan C, Uwaya GE, Fayemi OE, Yetim H. 2019. Bioactivities of phytochemicals in *Callistemon citrinus* against multi-resistant foodborne pathogens, alpha glucosidase inhibition and MCF7 cancer cell line. Biotechnol Biotechnol Equip 33 (1): 764-778.

Fensham R, Collingwood T, Laffineur B. 2019. *Eucalyptus globulus*. The IUCN Red List of Threatened Species.

Fensham R, Collingwood T, Laffineur B. 2019. *Eucalyptus microcorys*. The IUCN Red List of Threatened Species.

Fensham R, Laffineur B, Collingwood T. 2019. *Eucalyptus robusta*. The IUCN Red List of Threatened Species.

Fort RS, Barnech JMT, Dourron J, Colazzo M, Aguirre-Crespo FJ, Duhagon MA, Álvarez G. 2018. Isolation and structural characterization of bioactive molecules on prostate cancer from Mayan traditional medicinal plants. Pharmaceuticals 11: 78.

Fridlender M, Kapulnik Y, Koltai H. 2015. Plant derived substances with anti-cancer activity: from folklore to practice. Front Plant Sci 6: 799-808.

Fu M, Qiu SX, Xu Y, Wu J, Chen Y, Yu Y, Xiao G. 2013. A new xanthone from the pericarp of *Garcinia mangostana*. Nat Prod Commun. 8 (12): 1733-1734.

Fukuyama Y, Minami H, Fujii H, Tajima M. 2002. Triterpenoids from *Viburnum suspensum*. PhytoChem 60 (8): 765-768.

Ganash M. 2019. Cytogenetic toxicity of *Juniperus procera* extract with silver nanoparticles against carcinoma colon (CaCo-2) cell line *in vitro*. Int J Pharmacol 15 (5): 576-585.

Ganeson S, bin Abdul Jamil MM, Ambar RB, Wahab RA. 2018. Influence of *Artocarpus altilis* fruit extract on cancer cell. 2018 9th IEEE Control and System Graduate Res. Colloquium (ICSGRC): 240-243.

García-Mendoza AJ, Sandoval-Gutiérrez D, Hernández Sandoval L, Puente R, Zamudio S, González-Elizondo M, Hernández-Martínez M. 2019. *Agave salmiana*. The IUCN Red List of Threatened Species.

García-Mendoza AJ, Sandoval-Gutiérrez D, Hernández Sandoval L, Zamudio S. 2019. *Agave americana*. The IUCN Red List of Threatened Species.

García-Mendoza AJ, Sandoval-Gutiérrez D, Torres-García I., Linares J. 2019. *Agave attenuata*. The IUCN Red List of Threatened Species.

Geetha D, Rajeswari M, Jayashree I. 2013. Chemical profiling of *Elaeocarpus serratus* L. by GC-MS. Asian Pacific J Trop BioMed 3 (12): 985-987.

Gerlach SL, Rathinakumar R, Chakravarty G, Göransson U, Wimley WC, Darwin SP, Mondal D. 2010. Anticancer and chemosensitizing abilities of cycloviolacin O2 from *Viola odorata* and psyle cyclotides from *Psychotria leptothyrsa*. Biopolymers 94 (5): 61.

Ghalib RM, Hashim R, Sulaiman O, Mehdi SH, Anis Z, Rahman SZ, Ahamed BMK, Abdul Majid AMS. 2011. Phytochemical analysis, cytotoxic activity and constituents–activity relationships of the leaves of *Cinnamomum iners* (Reinw. Ex Blume-Lauraceae). Nat Prod Res 1-4.

Gheraibia S, Belattar N, Abdel-Wahhab MA. 2020. HPLC analysis, antioxidant and cytotoxic activity of different extracts of *Costus speciosus* against HePG-2 cell lines. South Afr J Bot 131: 222-228.

Ghogue J-P. 2010. *Acanthus montanus. The IUCN Red List of Threatened Species*

Gleńsk M, Czapińska E, Woźniak M, Ceremuga I, Włodarczyk M, Terlecki G, Ziółkowski P, Seweryn E. 2017. Triterpenoid acids as important antiproliferative constituents of Eur. elderberry fruits. Nutr Cancer 69 (4): 643-651.

Goh MPY, Yasin H, Jama A, Ahmad N. 2018. Phytochemical and Biological activities of *Litsea elliptica* Blume. Med Aromatic Plants 7: 41.

Goulas V, Exarchou V, Troganis AN, Psomiadou E, Fotsis T, Briasoulis E, et al. Phytochemical in olive-leaf extracts and their antiproliferative activity against cancer and endothelial cells. Mol Nutr Food Res 53 (5):600-608.

Greenwell M, Rahman PKSM. 2015. Medicinal plants: their use in anticancer treatment. Int J Pharm Sci Res 6 (10): 4103-4112.

Habib FK, Ross M, KH Ho C, Lyons V, Chapman K. 2005. *Serenoa repens* (Permixon®) inhibits the 5α-reductase activity of human prostate cancer cell lines without interfering with PSA expression. Int J Cancer 11(2): 190-194.

Habib FK, Ross M, KH Ho C, Lyons V, Chapman K. 2005. *Serenoa repens* (Permixon®) inhibits the 5α-reductase activity of human prostate cancer cell lines without interfering with PSA expression. Int J Cancer 114 (2): 190-194.

Habsah M, Ali AM, Lajis NH, Sukari MA, Yap YH, Kikuzaki H. 2005. Antitumour promoting and cytotoxic constituents of *Etlingera elatior*. Malay J Med Sci 12: 6-12.

Hajiaghaalipour F, Kanthimathi MS, Sanusi J, Rajarajeswaran J. 2015. White tea (*Camellia sinensis*) inhibits proliferation of the colon cancer cell line, HT-29, activates caspases and protects DNA of normal cells against oxidative damage. Food Chem 169: 401-410.

Hakim EH, Asnizar, Yurnawilis, Aimi N, Kitajima M, Takayama H. 2002. Artoindonesianin P, a new prenylated flavone with cytotoxic activity from *Artocarpus lanceifolius*. Fitoterapia 73 (7-8): 668-673.

Han B, BGCI, IUCN SSC Global Tree Specialist Group. 2019. *Gleditsia sinensis*. The IUCN Red List of Threatened Species.

Hanaoka A, Sakagami H, Konno K. 1989. Pine cone antitumor substances stimulate cytotoxic factor production in young mice, but not in aged or tumor-bearing mice. Showa Univ J Med Sci 1 (1.2): 57-63.

Handayani A. 2015. Diversity of Lamiaceae as potential drugs from Cibodas Botanic Gardens medicinal plant. Pros Sem Nas Masy Biodiv Indon 1 (6): 1324-1327. [Indonesian]

Harneti D, Supriadin A, Ulfah M, Safari A, Supratman U, Awang K, Hayashi H. 2014. Cytotoxic constituents from the bark of *Aglaia eximia* (Meliaceae). PhytoChem Lett 8: 28-31.

Haryanti S, Widiyastuti Y, Rahmawati N. 2018. Cytotoxic and MMPs inhibitory activities of sappan wood (*Caesalpinia sappan* L.): Various extracts on 4T1 breast cancer cell line. Health Sci J Indones 9 (1): 51-56.

Hemshekhar M, Sunitha K, Santhosh MS, Devaraja S, Kemparaju K, Vishwanath BS, Niranjana SR, Girish KS. 2011. An overview on genus Garcinia: phytochemical and therapeutical aspects. PhytoChem Rev 10 (3): 325-351.

Hernández HM, Cházaro M, Gómez-Hinostrosa C. 2017. *Opuntia robusta* (amended version of 2013 assessment). The IUCN Red List of Threatened Species.

Hidayat AT, Nurlelasari N, Abdullah FF, Harneti D, Maharani R, Haikal K, Supratman U, Azmi MN. 2018. A new lignan derivative, lasiocarpone, from the stembark of *Chisocheton lasiocarpus* (Meliaceae). Oriental J Chem 34 (4): 1956-1960.

Hilton-Taylor C. 1998. *Catha edulis*. The IUCN Red List of Threatened Species.

Ho C-L, Jie-Ping O, Liu Y-C, Hung C-P, Tsai M-C, Liao P-C, Wang EI-C, Chen Y-L, Su Y-C. 2010. Compositions and *in vitro* anticancer activities of the leaf and fruit oils of *Litsea cubeba* from Taiwan. Nat Prod Commun 5 (4): 617-620.

Honari M, Shafabakhsh R, Reiter RJ, Mirzaei H, Asemi Z. 2019. Resveratrol is a promising agent for colorectal cancer prevention and treatment: Focus on molecular mechanisms. Cancer Cell Int 19 (1): 180-187.

Horgen FD, Edrada RA, de los Reyes G, Agcaoili F, Madulid DA, Wongpanich V, Angerhofer CK, Pezzuto JM. Soejarto DD, Farnsworth NR. 2001. Biological screening of rain forest plot trees from Palawan Island (Philippines). PhytoMed 8 (1): 71-81.

Hossan S, Rahman S, Al-Nahain A, Rahmatullah M. 2012. Rosmarinic acid: a review of its anticancer action. World J Pharmacy Pharm Sci 3 (9): 57-70.

Hosyar R, Mohagheh Z, Torabia N, Abolghasemi A. 2015. Antitumor activity of aqueous extract of *Ziziphus jujube* fruit in breast cancer: an *in vitro* and *in vivo* study. Asian Pac J Reproduct 4 (2): 116-122.

Hsieh T-J, Chang F-R, Chia Y-C, Chen C-Y, Chiu H-F, Wu Y-C. 2001. Cytotoxic constituents of the fruits of *Cananga odorata*. J Nat Prod 64 (5): 616-619.

Hsiung WY, Abdul Kadir H. 2011. *Leea indica* ethyl acetate fraction induces growth-inhibitory effect in various cancer cell lines and apoptosis in Ca Ski human cervical epidermoid carcinoma cells. Evidence-Based Complement Altern Med (2011): 1-13.

Huang S, Wang L-L, Xue N-N, Li C, Guo H-H, Ren T-K, Zhan Y, Li W-B, Zhang J, Chen X-G, Han Y-X, Zhang J-L, Jiang -D. 2019. Chlorogenic acid effectively treats cancers through induction of cancer cell differentiation. Theranostics 9 (23): 6745-6763.

Huspa DHP. 2009. Senyawa antikanker dan insektisida dari genus Aglaia. Unpad Press, Bandung. [Indonesian]

Hutagaol RP, Harneti D, Hidayat AT, Nurlelasari N, Maharani R, Katja DG, Supratman U, Awang K, Shiono Y. 2020. (22E,24S)-24-Propylcholest-5en-3α-acetate: A new steroid from the stembark *Aglaia angustifolia* (Miq.) (Meliaceae). Molbank 2020 (1): 1-6.

Hwang BY, Su B-N, Chai H, Mi Q, Kardono LBS, Afriastini JJ, Riswan S, Santarsiero BD, Mesecar AD, Wild R, Fairchild CR, Vite GD, Rose WC, Farnsworth NR, Cordell GA, Pezzuto JM, Swanson SM, Kinghorn AD. 2004. Silvestrol and episilvestrol, Potential anticancer rocaglate derivatives from *Aglaia silvestris*. J Organic Chem 69 (10) 3350-3358.

Ikuta A, Tomiyasu H, Morita Y, Yoshimura K. 2003. Ursane- and oleanane-type triterpenes from *Ternstroemia gymnanthera* callus tissues. J Nat Prod 66: 1051-1054.

Imran M, Salehi B, Sharifi-Rad J, Aslam Gondal T, Saeed F, Imran A, Shahbaz M, Tsouh Fokou PV, Umair Arshad M, Khan H, Guerreiro SG, Martins N, Estevinho LM. 2019. Kaempferol: A key emphasis to its anticancer potential. Molecules 24 (12): 2277-2293.

Indonesian Ministry of Health. 2018. Hasil utama Riskesdas 2018. https://kesmas.kemkes.go.id [Indonesian]

International Agency for Research on Cancer (IARC). 2018. Press release World Health Organization: Latest global cancer data: cancer burden rises to 18.1 million new cases and 9.6 million cancer. https://www.who.int/cancer/PRGlobocanFinal.pdf

Iqbal J, Abbasi BA, Mahmood T, Kanwal S, Ali B, Shah SA, Khalil AT. 2017. Plant-derived anticancer agents: a green anticancer approach. Asian Pac J Trop Biomed 7 (12): 1129-1150.

Irudayaraj V. 2011. *Diplazium esculentum*. The IUCN Red List of Threatened Species.

Ismiyati N, Putri DDP, Kusumastuti SA, Febriansyah R. 2012. Antiproliferative effect of ethanolic extract *Eugenia uniflora* Lam. leaves on T47D Cells. Indonesian J Cancer Chemoprevention 3(2): 370-375.

IUCN SSC Global Tree Specialist Group & BGCI. 2019. *Cananga odorata*. The IUCN Red List of Threatened Species.

IUCN SSC Global Tree Specialist Group & BGCI. 2019. *Dillenia serrata*. The IUCN Red List of Threatened Species.

IUCN SSC Global Tree Specialist Group & BGCI. 2019. *Litsea mappacea*. The IUCN Red List of Threatened Species.

IUCN SSC Global Tree Specialist Group & BGCI. 2019. *Terminalia calamansanai*. The IUCN Red List of Threatened Species.

IUCN SSC Global Tree Specialist Group & BGCI. 2020. *Coccoloba uvifera*. The IUCN Red List of Threatened Species.

Jabit Md.L, Wahyuni FS, Khalid R, Israf DA, Shaari K, Lajis NH, Stansias J. 2009. Cytotoxic and nitric oxide inhibitory activities of methanol extracts of Garcinia species. Pharm Biol 47 (11): 1019-1026.

Jabit Md.L, Wahyuni FS, Khalid R, Israf DA, Shaari K, Lajis NH, Stansias J. 2009. Cytotoxic and nitric oxide inhibitory activities of methanol extracts of Garcinia species. Pharm Biol 47 (11): 1019-1026.

Jagetia GC, Baliga MS. 2006. Evaluation of anticancer activity of the alkaloid fraction of *Alstonia scholaris* (Sapthaparna) *in vitro* and *in vivo*. Phytotherapy Res 20 (2): 103-109.

Jalil J, Sabandar C, Ahmat N, Jamal J, Jantan I, Aladdin N-A, Muhammad K., Buang F, Mohamad H, Sahidin I. 2015. Inhibitory effect of triterpenoids from *Dillenia serrata* (Dilleniaceae) on Prostaglandin E2 production and quantitative HPLC analysis of its koetjapic acid and betulinic acid contents. Molecules 20 (2): 3206-3220.

Jang DS, Cuendet M, Pawlus AD, Kardono LBS, Kawanishi K, Farnsworth NR, Fong HHS, Pezzuto JM, Kinghorn AD. 2004. Potential cancer chemopreventive constituents of the leaves of *Macaranga triloba*. PhytoChem 65 (3): 345-350.

Jason K. Higa, Zhibin Liang, Philip G. Williams, Jun Panee. 2012. *Phyllostachys edulis* compounds inhibit palmitic acid-induced monocyte chemoattractant protein 1 (MCP-1) production. PLOS ONE 7 (9): e45082.

Jiang Z, Yaqiong P, Xiaobo Y, Suxia Z, Jun Q, Ning Z, Haiyan D, Qing S, Minliang K, Lee J. 2016. The paradigm-shifting idea and its practice: from traditional abortion Chinese medicine *Murraya paniculata* to safe and effective cancer metastatic chemopreventives. Oncotarget 7 (16): 21699-21712.

Jin ML, Park SY, Kim YH, Park G, Lee SJ. 2014. Halofuginone induces the apoptosis of breast cancer cells and inhibits migration via downregulation of matrix metalloproteinase-9. Int. J. of Oncology 44(1): 309–318.

Jong JK, Bimal KG, Hyeun CS, Kyung JL, Ki SS, Young SC, Taek SY, Ye Ji L, Eun Hye K, Min C. 2012. Comparison of phenolic compounds content in indeciduous Quercus species. J Med Plants Res 6 (39): 5228-5239.

Juliawaty LD, Kitajima M, Takayama H, Achmad SA, Aimi N. 2000. A 6-substituted-5,6-dihydro-2-pyrone from *Cryptocarya strictifolia*. PhytoChem 54 (8): 989-993.

Jun NJ, Mosaddik A, Moon JY, Jang K-C, Lee D-S, Ahn KS, Cho SK. 2011. Cytotoxic activity of -caryophyllene oxide isolated from Jeju Guava (*Psidium cattleianum* Sabine) Leaf Rec Nat Prod 5 (3): 242-246.

Kamurthy H, Dontha S. 2015. Phytochemical screening on *Euphorbia milii* red flowers – isolation of terpenoids, flavone and phenols. American J EthnoMed 2 (6): 322-332.

Kannabiran K, Khanna V. 2009. Anticancer-cytotoxic activity of saponins isolated from the leaves of *Gymnema sylvestre* and *Eclipta prostrata* on HeLa cells. Int J Green Pharm 3 (3): 227-229.

Kapp, K. 2015. Polyphenolic and Essential Oil Composition of Mentha and Their Antimicrobial Effect. [Disertation]. University of Helsinki. Finland.

Karimi E, Jaafarb HZE, Ghasemzadehb A. 2016. Chemical composition, antioxidant and anticancer potential of *Labisia pumila* variety alata under CO_2 enrichment. NJAS Wageningen J Life Sci 78: 85-91.

Kaššák P. 2012. Secondary metabolites of the choosen genus Iris species. Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis 60 (8): 269-280.

Kavak S. 2014. *Iris pseudacorus*. The IUCN Red List of Threatened Species.

Khela S, Wilson B. 2018. *Laurus nobilis*. The IUCN Red List of Threatened Species.

Kiem PV, Thu VK, Yen PH, Nhiem NX, Tung NH, Cuong NX, Minh CV, Huong HT, Hyun JH, Kang HK, Kim YH. 2009. New triterpenoid saponins from *Glochidion eriocarpum* and their cytotoxic activity. Chem Pharm Bull 57: 102-105.

Kikuchi T, Akazawa H, Tabata K, Manosrol A, Manosrol J, Suzuki T, Akihisa T. 2011. 3-O-(E)-p-coumaroyl tormentic acid from *Eriobotrya japonica* leaves induces caspase-dependent apoptotic cell death in human leukemia cell line. Chem Pharm Bull 59 (3) 378-381.

Kikuchi T, Nihei M, Nagai H, Fukushi H, Tabata K, Suzuki T, Akihisa T. 2010. Albanol A from the root bark of *Morus alba* L. induces apoptotic cell death in HL60 human leukemia cell line. Chem Pharm. Bull 58 (4): 568-571.

Kim E-S, Jeong C-S, Moon A. 2012. Genipin, a constituent of *Gardenia jasminoides* Ellis, inducesapoptosis and inhibits invasion in MDA-MB-231 breast cancer cells. Oncology Rep 27: 567-572.

Kim S, Chin Y-W, Su B-N, Riswan S, Kardono LBS, Afriastini JJ, Chai H, Farnsworth NR, Cordell GA, Swanson SM, Kinghorn AD. 2006. Cytotoxic flavaglines and bisamides from *Aglaia edulis*. J Nat Prod 69 (12): 1769-1775.

Kirollos FN, Elhawary SS, Salama OM, Elkhawas YA. 2019. LC-ESI-MS/MS and cytotoxic activity of three Pistacia species. Nat Prod Res. 33 (12): 1747-1750.

Ko H-H, Lu Y-H, Yang S-Z, Won S-J, Lin C-N. 2005. Cytotoxic prenylflavonoids from *Artocarpus elasticus*. J Nat Prod 68 (11): 1692-1695.

Kornienko A, Evidente A. 2008. Chemical, biological, and medicinal potential of narciclasine and its congeners. Chem Rev 108 (6): 1982-2014.

Kosasih K, Sumaryono W, Supriono A, Mudhakir D. 2019. Cytotoxicity of ethyl acetate extract of cantigi (*Vaccinium varingiaefolium* (Blume) Miq. young leaves on *Artemia salina* L. larvae, MCF7, T-47D, and vero cell lines. J Pharmacogn PhytoChem 8 (4): 24-33.

Krajarng A, Chulasiri M, Watanapokasin R. 2017. *Etlingera elatior* extract promotes cell death in B16 melanoma cells via down-regulation of ERK and Akt signaling pathways. BMC Complement Altern Med 17: 415.

Kubatka P, Kello M, Kajo K, Samec M, Jasek K, Vybohova D, Uramova S, Liskova A, Sadlonova V, Koklesova L, Murin R, Adamkov M, Smejkal K, Svajdlenka E, Solar P, Samuel SM, Kassayova M, Kwon TK, Zubor P, Mojzis J. 2020. Chemopreventive and therapeutic efficacy of *Cinnamomum zeylanicum* L. bark in experimental breast carcinoma: mechanistic *in vivo* and *in vitro* analyses. Molecules 25 (6): 1399-1430.

Kuete V, Voukeng IK, Tsobou R, Mbaveng AT, Wiench B, Beng VP, Efferth T. 2013. Cytotoxicity of *Elaoephorbia drupifera* and other Cameroonian medicinal plants against drug sensitive and multidrug resistant cancer cells. BMC Complement Altern Med 13 (1): 250-257.

Kumar Y, Periyasamy L. 2016. GC-MS analysis and *in vitro* cytotoxic studies of *Bixa orellana* seed extract against cancer cell line. Int J Pharm Pharm Sci 8 (1): 408-413.

Kuo P-L, Hsu Y-L, Sung S-C, Ni W-C, Lin T-C, Lin C-C. 2007. Induction of apoptosis in human breast adenocarcinoma MCF7 cells by pterocarnin A from the bark of *Pterocarya stenoptera* via the Fas-mediated pathway: Anti-Cancer Drugs 18 (5): 555-562.

Kurniadewi F, Juliawaty LD, Syah YM, Achmad SA, Hakim EH, Koyama K, Kinoshita K, Takahashi K. 2010. Phenolic compounds from *Cryptocarya konishii*: Their cytotoxic and tyrosine kinase inhibitory properties. J Nat Med 64 (2): 121-125.

Kusari S, Zühlke S, Spiteller M. 2011. Chemometric evaluation of the anti-cancer pro-drug podophyllotoxin and Potential therapeutic analogues in Juniperus and Podophyllum species. PhytoChem Anal 22 (2): 128-143.

Kutoi CJ, Yen KH, Seruji NMU. 2012. Pharmacol. evaluation of *Litsea garciae* (Lauraceae). 2012 IEEE Business, Engineering and Industrial Applications Colloquium (BEIAC): 31-33.

Kwon H-J, Lee E-W, Hong Y-K, Yun H-J, Kim B-W. 2010. Widdrol from *Juniperus chinensis* induces apoptosis in human colon adenocarcinoma HT-29 Cells. Biotechnol Bioprocess Eng 15 (1): 167-172.

Lai HY, Lim YY, Kim KH. 2010. *Blechnum Orientale* Linn - a fern with Potential as antioxidant, anticancer and antibacterial agent. BMC Complement Altern Med 10: 15-22.

Lai W-C, Tsui Y-T, Singab A, El-Shazly M, Du Y-C, Hwang T-L, Wu C-C, Yen M-H, Lee C-K, Hou M-F, Wu Y-C, Chang F-R. 2013. Phyto-SERM constitutes from *Flemingia macrophylla*. Int J Mol Sci 14 (8): 15578-15594.

Lai Y, Liu H, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Viburnum odoratissimum*. The IUCN Red List of Threatened Species.

Lansdown RV, Beentje HJ. 2017. *Eclipta prostrata* (amended version of 2017 assessment). The IUCN Red List of Threatened Species.

Lansdown RV. 2014. *Acorus calamus*. The IUCN Red List of Threatened Species.

Lansdown RV. 2018. *Cyperus alternifolius*. The IUCN Red List of Threatened Species.

Lansdown RV. 2018. *Equisetum ramosissimum*. The IUCN Red List of Threatened Species.
Lansdown RV. 2019. *Centella asiatica*. The IUCN Red List of Threatened Species.
Lee SK, Cui B, Mehta RR, Kinghorn AD, Pezzuto JM. 1998. Cytostatic mechanism and antitumor Potential of novel 1H-cyclopenta[b]benzofuran lignans isolated from *Aglaia elliptica*. Chemico-Biol Interact 115 (3): 215-228.
Lei T, Li Y, Li D-M, Liu G-M, Liu J-K, Wang F. 2011. A novel phenolic compound from *Pinus yunnanensis*. J Asian Nat Pro. Res 13 (5): 425-429.
Li J-Z, Qing C, Chen C-X, Hao X-J, Liu H-Y. 2009. Cytotoxicity of cardenolides and cardenolide glycosides from *Asclepias curassavica*. Bioorganic Med Chem. Lett 19 (7): 1956-1959.
Li K-K, Xu F, Li S-S, Cao G-Y, Gong X-J. 2019. Cytotoxic epimeric ginsenosides from the flower buds of *Panax ginseng*. Steroids 143: 1-5.
Li P-H, Chiu Y-P, Shih C-C, Wen Z-H, Ibeto LK, Huang S-H, Chiu CC, Ma D-L, Leung C-H, Chang Y-N, Wang H-MD. 2016. Biofunctional activities of *Equisetum ramosissimum* extract: protective effects against oxidation, melanoma, and melanogenesis. Oxidative Med Cell Longevity 2016: 1-9.
Li W, Chiu L, Lam W, Wong W, Chan Y, Ho Y, Wong E, Wong Y, Ooi V. 2007. Ethyl acetate extract of Chinese Med. herb *Sarcandra glabra* induces growth inhibition on human leukemic HL-60 cells, associated with cell cycle arrest and up-regulation of pro-apoptotic Bax/Bcl-2 ratio. Oncology Rep 17: 425-431.
Li X, Li Y, Luo J, Zhou Z, Xue G, Kong L. 2017. New phloroglucinol derivatives from the whole plant of *Hypericum uralum*. Fitoterapia 123: 59-64.
Liao J, Wu F, Lin W, Huang Z. 2018. Taraxerol exerts active anticancer effects via induction of apoptosis and inhibition of Nf-kB signalling pathway in human middle ear epithelial cholesteatoma cells. Trop J Pharm Res 17 (6): 1011-1017.
Lichota A, Gwodzdzinski K. 2018. Anticancer activity of natural compounds from plant and marine environment. Int J Mol Sci 19: 3533-3570.
Lim SW, Ting KN, Bradshaw TD, Zeenathul NA, Wiart C, Khoo TJ, Lim KH, Loh HS. 2011. *Acalypha wilkesiana* extracts induce apoptosis by causing single strand and double strand DNA breaks. J Ethno Pharmacol 138 (2): 616-623.
Lin A-S, Lin C-R, Du Y-C, Lübken T, Chiang M, Chen I.-H, Wu C-C, Hwang T-L, Chen S-L, Yen M-H, Chang F-R, Wu Y-C. 2009. Acasiane A and B and Farnesirane A and B, diterpene derivatives from the roots of *Acacia farnesiana*. Plant Med 75 (03): 256-261.
Lin R-J, Lo W-L, Wang Y-D, Chen C-Y. 2008. A novel cytotoxic monoterpenoid from the leaves of *Cinnamomum subavenium*. Nat Prod Res 22 (12): 1055-1059.
Lissoni P, Rovelli F, Brivio F, Zago R, Colciago M, Messina G, Mora A, Porro G. A randomized study of chemotherapy versus biochemotherapy with chemotherapy plus *Aloe arborescens* in patients with metastatic cancer. In Vivo 23: 171-175.
Loizzo MR, Tundis R, Menichini F, Saab AM, Statti GA, Menichini F. 2008. Antiproliferative effects of essential oils and their major constituents in human renal adenocarcinoma and amelanotic melanoma cells: essential oils cytotoxicity. Cell Proliferation 41 (6): 1002-1012.
Lu B, Lianliang L, Xiaowei Z, Xiaoqin W, Ying Z. 2012. Anti-tumor activity of triterpenoid-rich extract from bamboo shavings (*Caulis bamfusae* in Taeniam). African J Biotechnol 9 (38): 6430-6436.
Madunić J, Matulić M, Friščić M, Pilepić KH. 2016. Evaluation of the cytotoxic activity of *Hypericum* spp. on human glioblastoma A1235 and breast cancer MDA MB-231 cells. J Environ Sci Health 51 (13): 1157-1163.
Magadula JJ, Erasto P. 2009. Bioactive natural product derived from the East African flora. Nat Prod Rep 26 (12): 1535-1554.
Mah SH, Ee GCL, Teh SS, Rahmani M, Lim YM, Go R. 2012. Phylattrin, a new cytotoxic xanthone from *Calophyllum soulattri*. Molecules 17: 8303-8311.
Maiz-Tome L. 2016. *Achillea millefolium*. The IUCN Red List of Threatened Species.
Mallavadhani UV, Panda AK, Rao YR. 1998. Review article number 134 Pharmacology and chemotaxonomy of Diospyros. PhytoChem 49 (4): 901-951.
Mangal M, Sagar P, Singh H, Raghava GPS, Agarwal SM. 2013. NPACT: naturally occurring plant-based anti-cancer compound activity-target database. Nucleic Acids Res. 41: 1124-1129.
Manosroi A, Sainakham M, Chankhampan C, Manosroi W, Manosroi J. 2016. *In vitro* anti-cancer activities of Job's tears (*Coix lachryma-jobi* Linn.) extracts on human colon adenocarcinoma. Saudi J Biol Sci 23: 248-256.
Maoka T, Mochida K, Kozuka M, Ito Y, Fujiwara Y, Hashimoto K, Enjo F, Ogata M, Nobukuni Y, Tokuda H, Nishino H. 2001. Cancer chemopreventive activity of carotenoids in the fruits of red paprika *Capsicum annuum* L. Cancer Lett 172: 103-109.
Martínez Richart AI. 2019. *Aloe arborescens*. The IUCN Red List of Threatened Species.
Masondo NA, Finnie JF, Van Staden J. 2014. Pharmacological Potential and conservation prospect of the genus Eucomis (Hyacinthaceae) endemic to southern Africa. J Ethno Pharmacol 151: 44-53.
Matloub AA, Mohammed RS, Souda SSE, El-Hallouty SM, Gomaa EZ, Hassan AA. 2018. Phytochemical and biological studies on *Enterolobium contortisiliquum* (Vell.) Morong Pericarps. J Mat Environ Sci 9 (10): 2768-2778.
Matsunaga H, Katano M, Yamamoto H, Fujito H, Mori M, Takata K. 1990. Cytotoxic activity of polyacetylene compounds in *Panax ginseng* C. A. Meyer. Chem Pharm Bull 38 (12): 3480-3482.
Mbaveng AT, Kuete V, Mapunya BM, Beng VP, Nkengfack AE, Meyer JJM, Lall N. 2011. Evaluation of four Cameroonian medicinal plants for anticancer, antigonorrheal and antireverse transcriptase activities. Environ Toxicol Pharmacol 1-17.
McDougal OM, Heenan PB, Perry NB, van Klink JW. 2018. Chemotaxonomy of kōwhai: Leaf and seed flavonoids of New Zealand Sophora species. N Z J Bot 56 (3): 227-236.
Meiyanto E, Rahmi F, Riyanto S. 2007. Kulit batang cangkring (*Erythrina fusca* Lour) terhadap sel HeLa. Majalah Obat Tradisional 11 (41): 1-11. [Indonesian]
Mena-Rejon G, Caamal-Fuentes E, Cantillo-Ciau Z, Cedillo-Rivera R, Flores-Guido J, Moo-Puc R. 2009. *In vitro* cytotoxic activity of nine plants used in Mayan traditional medicine. J Ethno Pharmacol 121 (3): 462-465.
Menichini F, Tundis R, Loizzo MR, Monesi M, Provenzano E, de Cindio B, Menichini F. 2010. *In vitro* photo-induced cytotoxic activity of *Citrus bergamia* and *C. medica* L. cv. Diamante peel essential oils and identified active coumarins. Pharm Biol 48 (9): 1059-1065.
Mohamad K, Sevenet T, Dumontet V, Pais M, Vantri M, Hadi H, Awang K, Martin M. 1999. Dammarane triterpenes and pregnane steroids from *Aglaia lawii* and *A. tomentosa*. Phyto Chem 51 (8): 1031-1037.
Moirangthem DS, Talukdar NC, Bora U, Kasoju N, Das RK. 2013. Differential effects of *Oroxylum indicum* bark extracts: antioxidant, antimicrobial, cytotoxic and apoptotic study. Cytotechnology 65 (1): 83-95.
Monks NR, Bordignon SAL, Ferraz A, Machado KR, Faria DH, Lopes RM, Mondin CA, Souza ICC, Lima MFS, da Rocha AB, Schwartsmann G. 2002. Anti-tumour screening of Brazilian plants. Pharm Biol 40 (8): 603-616.
Mori ALB, Kalschne DL, Ferrão MAG, Fonseca AFA, da Ferrão RG, enassi M de T. 2016. Diterpenes in *Coffea canephora*. J Food Compos Anal (52): 52-57.
Mouhid L, Gómez de Cedrón M, Vargas T, García-Carrascosa E, Herranz N, García-Risco M, Reglero G, Fornari T, Ramírez de Molina A. 2018. Identification of antitumoral agents against human pancreatic cancer cells from Asteraceae and Lamiaceae plant extracts. BMC Complement Altern Med 18 (1): 254-264.
Muhaimin M, Nurlaeni Y. 2018. Exudate-producing plants collection of Cibodas Botanic Gardens and its uses. Pros Sem Nas Masy Biodiv Indon 4: 151-157. [Indonesian]
Muhaimin M. 2016. *Taxus sumatrana* Miq. de Laub. Obat antikanker masa depan. Warta Kebun Raya 14 (1): 11-20. [Indonesian]
Muhammed RA, Hassawi DS, Ibaheem NK. 2018. Cytotoxic activity of *Taraxacum officinale* ethanolic plant extract against human breast cancer (MCF7) cells and human hepatic (WRL-68) cells. Iraqi J Cancer Med Gen 11(1): 16-21.
Mukherjee A, Sikdar S, Bishayee K, Boujedaini N, Khuda-Bukhsh AR. 2014. Flavonol isolated from ethanolic leaf extract of *Thuja occidentalis* arrests the cell cycle at G2-M and induces ROS-independent apoptosis in A549 cells, targeting nuclear DNA. Cell Prolif 47 (1): 56-71.

Myint PP, Dao TTP, Kim YS. 2019. Anticancer activity of *Smallanthus sonchifolius* methanol extract against human hepatocellular carcinoma cells. Molecules 24 (17): 3054-3064.

N'gaman KCC, Kabran GRM, Kadja BA, Mamyrbékova-Békro JA, Lecouvey M, Sainte-Cathérine O, Sommerer N, Verbaere A, Meudec E, Békro YA. 2014. ULPC-MS/MS phenolic quantification and *in vitro* anticancer Potential of *Gmelina arborea* Roxb. (Verbenaceae). Der Chem Sin 5 (6): 13-17.

Nadhifah A, Khujjah M, Vitara PE, Noviady I. 2018. Bryophytes in Cibodas Botanic Gardens: Diversity and potential uses. Biosaintifika 10 (2): 455-463.

Nagata T, Fujino Y, Toume K, Xiao Long L, Yamaguchi T, Okumura T, Komatsu K, Shimada Y. 2016. Anti-cancer effect in volatile components of hiba essential oil (*Thujopsis dolabrata*). J Clin Exp Pharmacol 6 (4): 214-218.

Najihah, Sutoyo S, Ismono, Mitarlis. 2018. Toxicity assay of phenolic compound isolated from the dichloromethane extract of silver fern (*Pityrogramma calomelanos*). Adv Eng Res 171: 63-66.

Nassar D, Aisha AFA, Al Suede FSR, Abdul Majid AS, Abdul Majid AMS. 2012. *In vitro* antimetastatic activity of koetjapic acid against breast cancer cells. Biol Pharm Bull 35 (4): 503-508.

Nath R, Roy S, De B, Choudhury MD. 2013. Anticancer and antioxidant activity of Croton: A review. Int J Pharm Pharm Sci 5 (2): 63-70.

Newell AMB, Yousef GG, Lila MA, Ramírez-Mares MV, Gonzalez de Mejia E. 2010. Comparative *in vitro* bioactivities of tea extracts from six species of Ardisia and their effect on growth inhibition of HepG2 cells. J Ethno Pharmacol 130 (3): 536-544.

Ngoc TM, Nhiem NX, Khoi NM, Son DC, Hung TV, Van Kiem P. 2014. A new coumarin and cytotoxic activities of constituents from *Cinnamomum cassia*. Nat Prod Commun 9 (4): 487-488.

Nguyen PH, Le TVT, Thuong PT, Dao TT, Ndinteh DT, Mbafor JT, Kang KW, Oh WK. 2009. Cytotoxic and PTP1B inhibitory activities from *Erythrina abyssinica*. Bioorganic Med Chem Lett 19 (23): 6745-6749.

Nguyen TT, Truong BN, Doan Thi Mai H, Litaudon M, Nguyen VH, Do Thi T, Chau VM, Pham VC. 2017. Cytotoxic dammarane-type triterpenoids from the leaves of *Viburnum sambucinum*. Bioorganic Med Chem Lett 27 (8): 1665-1669.

Ni G, Yang H-Z, Fu N-J, Zhang L-L, Wang M-C, Chen J, Zhang C-L, Li Y, Chen X-G, Chen R-Y, Yu D-Q. 2015. Cytotoxic taccalonolides and withanolides from *Tacca chantrieri*. Plant Med 81 (03): 247-256.

Nikmatullah M, Junaedi DI, Witono JR, Hendrian R. 2019. Inventory study of plants collection in the Medicinal Thematic Garden, Cibodas Botanic Gardens. IOP Conf Ser: Earth Environ Sci 399.

Nisa S, Bibi Y, Zia M, Waheed A, Chaudhary MF. 2013. Anticancer investigations on *Carissa opaca* and *Toona ciliata* extracts against human breast carcinoma cell line. Pakistan J Pharm Sci 26 (5): 1009-1012.

Nordin ML, Abdul Kadir A, Zakaria ZA, Abdullah R, Abdullah MNH. 2018. *In vitro* investigation of cytotoxic and antioxidative activities of *Ardisia crispa* against breast cancer cell lines, MCF-7 and MDA-MB-231. BMC Complement Altern Med 18: 87-96.

Nordin ML, Abdul Kadir A, Zakaria ZA, Othman F, Abdullah R, Abdullah MNH. 2017. Cytotoxicity and apoptosis induction of *Ardisia crispa* and its solvent partitions against *Mus musculus* mammary carcinoma cell line (4T1). Evidence-Based Complement Altern Med 2017: 1-10.

Nordin ML, Othman AA, Kadir AA, Shaari R, Osman AY, Mohamed M. 2019. Antibacterial and cytotoxic activities of the *Syzygium polyanthum* leaf extract from Malaysia, Veterinary World, 12(2):236-242.

Normasiwi S, Surya MI. 2016. The potential fruit crop of Cibodas Botanic Gardens. Biosaintika: J Biol Bio Educ 8 (2): 206-213.

Nugroho AE, Hermawan A, Putri DDP, Novika A, Meiyanto E. 2013. Combinational effects of hexane insoluble fraction of *Ficus septica* Burm. F. and doxorubicin chemotherapy on T-47D breast cancer cells. Asian Pac J Trop BioMed 3(4): 297-302.

Obaid HH, Barakat NT, Abdul-Halim AG, Abood ZH, Sagban LH. 2012. Cytotoxic effect of saponins extracted from Yucca on human breast cell line (HBL-100) *in vitro.* Iraqi J Biotechnol 16 (3): 223-229.

Oldfield S. 2018. *Schima wallichii*. The IUCN Red List of Threatened Species.

Oldfield S. 2020. *Croton argyratus*. The IUCN Red List of Threatened Species.

Oldfield S. 2020. *Viburnum sambucinum*. The IUCN Red List of Threatened Specie.s

Othman SNAM, Arker SD, Talukdar AD, Ningthoujan SS, Khamis S, Basar N. 2014. Chemical constituents and antibacterial activitiy of *Phaleria macrocarpa* (scheff.) Boerl. Iraqi J Biotechnol 16 (3): 223-229.

Pan L, Terrazas C, Acuña UM, Ninh TN, Chai H, Carcache de Blanco EJ, Soejarto DD, Satoskar AR, Kinghorn AD. 2014. Bioactive indole alkaloids isolated from *Alstonia angustifolia*. Phyto Chem Lett 1-6.

Pandey BR, Shrestha A, Sharma N, Shrestha BG. 2019. Evaluation of phytochemical, antimicrobial, antioxidant activity and cytotoxic Potentials of *Agave americana*. Nepal J Biotechnol 7 (1): 30-38.

Pannell CM. 1998. *Aglaia angustifolia*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia argentea*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia edulis*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia elliptica*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia forbesii*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia lawii*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia odorata*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia odoratissima*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia silvestris*. The IUCN Red List of Threatened Species.

Pannell CM. 1998. *Aglaia tomentosa*. The IUCN Red List of Threatened Species.

Participants of the FFI/IUCN SSC Central Asian regional tree Red Listing workshop, Bishkek, Kyrgyzstan (11-13 July 2006). 2007. *Ziziphus jujuba*. The IUCN Red List of Threatened Species.

Patel RM, Patel SK. 2011. Cytotoxic activity of methanolic extract of *Artocarpus heterophyllus* against A549, Hela and MCF7 cell lines. J Appl Pharm Sci 1 (7): 167-171.

Patel S. 2012. Yucca: A medicinaly significant genus with manifold therapeutic attributes. Nat Prod Bioprospecting 2 (6): 231-234.

Pecera T, Gazzola MV, Mucignat C, Parolin C, Vecchia FD, Cavaggioni A, Basso G, Diaspro A, Salvato B, Carli M, Palu G. 2020. Aloe-emodin is a new type of anticancer agent with selective activity against neuroectodermal tumors. Cancer Res 60: 2800-2804.

Peng W-W, Zeng G-Z, Songa W-W, Tan N-H. 2013. A new cytotoxic carbazole alkaloid and two new other alkaloids from *Clausena excavate*. ChemBiodivers 10: 1317-1321.

Perera LMS, Veloz AIR, GoisRuiz ALT, Foglio MA, de Carvalho JE. 2019. *In vitro* and *in vivo* antiproliferative activity of extracts and fractions of leaves and stem from *Tabebuia hypoleuca (C. Wright) Urb.* Drug Discov 13:10-21.

Péresse T, Jézéquel G, Allard P-M, Pham V-C, Huong DTM, Blanchard F, Bignon J, Lévaique H, Wolfender J-L, Litaudon M, Roussi F. 2017. Cytotoxic prenylated stilbenes isolated from *Macaranga tanarius*. J Nat Prod 80 (10): 2684-2691.

Perng D-S, Tsai Y-H, Cherng J, Kuo C-W, Shiao C-C, Cherng J-M. 2016. Discovery of a novel anti-cancer agent targeting both topoisomerase I and II in hepatocellular carcinoma Hep3B cells *In vitro* and *in vivo*: *Cinnamomum verum* component 2-methoxycinnamaldehyde. J Drug Targeting 24 (7): 624-634.

Pham VC, Ma J, Thomas SJ, Xu Z, Hecht SM. 2005. Alkaloids from *Alangium javanicum* and *Alangium grisolleoides* that mediate Cu 2+ -dependent DNA strand scission. J Nat Prod 68 (8): 1147-1152.

Poma P, Labbozzetta M, McCubrey JA, Ramarosandratana AV, Sajeva M, Zito P, Notarbartolo M. 2019. Antitumor mechanism of the essential oils from two succulent plants in multidrug resistance leukemia cell. Pharm 12 (3): 124-139.

Ponraj T, Kannan S. 2014. Anti-cancer activity of (*Phyllanthus emblica*) plant extract induced apoptosis and targeting survivin in MCF-7 Carcinoma cells. J Int J Recent Sci Re. 5 (11): 2123-2127.

Poulsen AD, Olander SB. 2019. *Etlingera elatior*. The IUCN Red List of Threatened Species.

Pratiwi DR, Bintang M, Simanjuntak P. 2014. Lelutung tokak (*Tabernaemontana macrocarpa* Jack.) sebagai sumber zat bioaktif antioksidan dan antikanker. Jurnal Ilmu Kefarmasian Indonesia 12 (2): 267-272. [Indonesian]

Proboningrat A, Fadholly A, Iskandar RPD, Achmad AB, Rantam FA, Sudjarwo SA. 2019. The potency of chitosan-based *Pinus merkusii* bark extract nanoparticles as anti-cancer on HeLa cell lines. Vet World 12 (10): 1616-1623.

Promraksa B, Daduang J, Khampitak T, Tavichakorntrakool R, Koraneekit A, Palasap A, Tangrassameeprasert R, Boonsiri P. 2015. Anticancer Potential of *Cratoxylum formosum subsp. pruniflorum* (Kurz.) Gogel extracts against cervical cancer cell lines. Asian Pac J Cancer Prev 16 (14): 6117-6121.

Purbowati R, Ersam T. 2019. Exploration of phenolic compound from the stem bark of *Garcinia latissima* Miq. Jurnal Sains dan Seni ITS 8 (2): 2337-3520. [Indonesian]

Putra WE, Rifa'i M. 2019. Immunomodulatory activities of *Sambucus javanica* extracts in DMBA exposed BALB/c mouse. Adv Pharm Bull 9 (4): 619-623.

Qi Y-Y, Su J, Zhang Z-J, Li L-W, Fan M, Zhu Y, Zhao Q-S. 2018. Two new anti-proliferative c18 -norditerpenes from the roots of *Podocarpus macrophyllus*. Chem Biodivers 15 (4).

Rabehevitra AD. 2019. *Kalanchoe beharensis*. The IUCN Red List of Threatened Species.

Rahmat A, Kumar V, Fong L-M, Endrini S, Sani HA. 2003. Determination of total antioxidant activity in three types of local vegetables shoots and the cytotoxic effect of their ethanolic extracts against different cancer cell lines. Asia Pac J Clin Nutr 12 (3): 292-295.

Rajkapoor B, Jayakar B, Murugesh N, Sakthisekaran D. 2006. Chemoprevention and cytotoxic effect of *Bauhinia variegata* against N-nitrosodiethylamine induced liver tumors and human cancer cell lines. J Ethno Pharmacol 104 (3): 407-409.

Rajkumar V, Gunjan G, Kumar RA, Lazar M. 2009. Evaluation of cytotoxic Potential of *Acorus calamus* rhizome. Ethnobot Leaflets 13: 832-39.

Raman RP, Parthiban S, Srinithya B, Kumar VV, Anthony SP, Sivasubramanian A, Muthuraman MS. 2015. Biogenic silver nanoparticles synthesis using the extract of the medicinal plant *Clerodendron serratum* and its *in vitro* antiproliferative activity. Mater Lett 1-9.

Rasul A, Millimouno FM, Ali Eltayb W, Ali M, Li J, Li X. 2013. Pinocembrin: a novel natural compound with versatile pharmacological and biological activities. BioMed Res Int 2013: 1-9.

Razanajatovo H. 2020. *Euphorbia milii*. The IUCN Red List of Threatened Species.

Ren Y, Lantvit DD, Carcache de Blanco EJ, Kardono LBS, Riswan S, Chai H, Cottrell CE, Farnsworth NR, Swanson SM, Ding Y, Li X-C, Marais JPJ, Ferreira D, Kinghorn AD. 2010. Proteasome-inhibitory and cytotoxic constituents of *Garcinia lateriflora*: absolute configuration of caged xanthones. Tetrahedron 66 (29): 5311-5320.

Rezadoost MH, Kumleh HH, Ghasempour A. 2019. Cytotoxicity and apoptosis induction in breast cancer, skin cancer and glioblastoma cells by plant extracts. Mol Biol Rep 46 (5): 5131-5142.

Rivers MC, Barstow M, Mark J. 2017. *Aleurites moluccanus*. The IUCN Red List of Threatened Species.

Rivers MC, Wheeler L. 2018. *Camellia sinensis*. The IUCN Red List of Threatened Species.

Rizwan K, Zubair M, Rasool N, Riaz M, Zia-Ul-Haq M, de Feo V. 2012. Phytochemical and biological studies of *Agave attenuate*. Int J Mol Sci 13: 6440-6451.

Roslen NA, Alewi NAM, Ahamada H, Rasad MSBA. 2014. Cytotoxicity screening of *Melastoma malabathricum* extracts on human breast cancer cell lines *in vitro*. Asian Pac J Trop BioMed 4 (7): 545-548.

Rowe H, Puente R. 2020. *Yucca glauca*. The IUCN Red List of Threatened Species.

Salama ZA, Aboul-Enein AM, Gaafar AA, Asker MS, Aly FH, Ahmed HA. 2020. In-vitro antioxidant, antimicrobial and anticancer activities of banana leaves (*Musa acuminata*) and olive leaves (*Olea europae* L.) as by-products. Res J Pharm Technol 13 (2): 687-696.

Saleem H, Htar TT, Naidu R, Ahmad I, Zengin G, Ahmad M, Ahemad N. 2019. Investigations into the therapeutic effects of aerial and stem parts of *Buxus papillosa* C.K. Schneid.: *in vitro* chemical, biological and toxicological perspectives. Pharm Biomed Anal 166: 128-138.

Sankar R, Maheswari R, Karthik S, Shivashangari KS, Ravikumar V. 2014. Anticancer activity of *Ficus religiosa* engineered copper oxide nanoparticles. Mater Sci Eng C 44: 234-239.

Santos D de A, Alves PB, Costa EV, Franco CRP, Nepel A, Barison A. 2014. Volatile constituents of *Aristolochia trilobata* L. (*Aristolochiaceae*): a rich source of sulcatyl acetate. Química Nova 37 (6): 977-981.

Santos-Zea L, Rosas-Pérez AM, Leal-Díaz AM, Gutiérrez-Uribe JA. 2016. Variability in saponin content, cancer antiproliferative activity and physicochemical properties of concentrated agave sap: saponin variability in agave sap. J Food Sci 81 (8): 1-7.

Sari RK, Syafii W, Achmadi SS, Hanafi M. 2012. Aktivitas antikanker dan kandungan kimia ekstrak kayu teras suren. Jurnal Ilmu dan Teknologi Kayu Tropis 10 (1): 1-11. [Indonesian]

Saroyobudiyono H, Aisyah S. 2006. A trimer resveratrol compound from *Shorea platyclados* Sloot trunk leather (Dipterocarpaceae). Jurnal Penelitian Sains dan Teknologi 7 (1): 11-16. [Indonesian]

Satyal P, Paudel P, Poudel A, Dosoky NS, Pokharel KK, Setzer WN. 2013. Bioactivities and compositional analyses of cinnamomum essential oils from Nepal: *C. camphora, C. tamala,* and *C. glaucescens*. Nat Prod Commun 8 (12): 1777-1784.

Seangphakdee P, Pompimon W, Meepowpan P, Panthong A, Chiranthanut N, Banjerdpongchai R, Wudtiwai B, Nuntasaen N, Pitchuanchom S. 2013. Anti-inflammatory and anticancer activities of (−)-zeylenol from stems of *Uvaria grandiflora*. Sci Asia 39 (6): 610-614.

Sebola TE, Uche-Okereafor NC, Tapfuma KI, Mekuto L, Green E, Mavumengwana V. 2019. Evaluating antibacterial and anticancer activity of crude extracts of bacterial endophytes from *Crinum macowanii* Baker bulbs. MicroBiol Open 8 (12): 1-10.

Seca AML, Pinto DCGA. 2017. Plant secondary metabolites as anticancer agents: successes in clinical trials and therapeutic application. Int J Mol Sci 19 (1): 263.

Selim, Y, El-Sharkawy E, Abd El-Azim MHM. 2020. New cytotoxic flavonoids from aerial parts of *Platycladus orientalis* L. Nat Prod Res 34 (12): 1763-1771.

Semwal DK, Badoni R, Semwal R, Kothiyal SK, Singh GJP, Rawat U. 2010. The genus Stephania (Menispermaceae): chemical and pharmacological perspectives. J Ethnopharmacol 132 (2): 369-383.

Seo Y, Hoch J, Abdel-Kader M, Malone S, Derveld I, Adams H, Werkhoven MCM, Wisse JH, Mamber SW, Dalton JM, Kingston DGI. 2002. Bioactive saponins from *Acacia tenuifolia* from the Suriname rainforest 1. J Nat Prod 65 (2): 170-174.

Serra AT, Poejo J, Matias AA, Bronze MR, Duarte CMM. 2013. Evaluation of Opuntia spp. derived product as antiproliferative agents in human colon cancer cell line (HT-29). Food Res Int 54 (1): 892-901.

Shafek RE, Shafik NH, Michael HN, El-Hagrassi AM, Osman AF. 2015. Phytochemical studies and biological activity of *Dodonaea viscosa* flowers extract. J Chem Pharm Res 7 (5): 109-116.

Shah G, Singh PS, Mann AS, Shri R. 2011. Scientific basis for the chemical constituent and therapeutic use of Elaeocarpus species: a review. Int J Institutional Pharm Life Sci 1 (1): 267-278.

Shalabi M, Khilo K, Zakaria MM, Elsebaei MG, Abdo W, Awadin W. 2015. Anticancer activity of *Aloe vera* and *Calligonum comosum* extracts separetely on hepatocellular carcinoma cells. Asian Pac J Trop Bio Med 5 (5): 375-381.

Shao Q, Zhao L, BGCI, IUCN SSC Global Tree Specialist Group. 2019. *Ficus fistulosa*. The IUCN Red List of Threatened Species.

Shao, Suxia Z, Zhou J, Ting C, Ji M, Minliang K, Alan Y-L L, Lee J. 2016. Warfarin and coumarin-like *Murraya paniculata* extract down-regulate EpCAM-mediated cell adhesion: individual components versus mixture for studying botanical metastatic chemopreventives. Sci Rep 6: 1-10.

Sharma JVC, Pitchaiah G, Satyavati D, Venkateswara Rao J, SanjayKumar H, Vikram (2011) *In vitro* anticancer activity of methanolic extract of roots of *Glochidion zeylanicum* (Gaertn.). Int J Res PharmBiomed Sci 2(2):760–764.

Shaw K, Roy S, Wilson B. 2014. *Alnus japonica*. The IUCN Red List of Threatened Species.

Shawky E, Takla SS, Hammoda HM, Darwish FA. 2018. Evaluation of the influence of green extraction solvents on the cytotoxic activities of Crinum (Amaryllidaeae) alkaloid extracts using *in-vitro-in-silico* approach. J Ethnopharmacol 227: 139-149.

Shen T, Chen X-M, Harder B, Long M, Wang X-N, Lou H-X, Wondark G, Ren D-M, Zhang D. 2014. Plant extracts of the family Lauraceae: A potential resource for chemopreventive agents that activate the nuclear factor-erythroid 2-related factor 2/antioxidant response element pathway. Plant Med 80 (05): 426-434.

Shen T, Chen X-M, Harder B, Long M, Wang X-N, Lou H-X, Wondark G, Ren D-M, Zhang D. 2014. Plant extracts of the family Lauraceae: A potential resource for chemopreventive agents that activate the nuclear factor-erythroid 2-related factor 2/antioxidant response element pathway. Plant Med 80 (05): 426-434.

Shen YC, Shih-Sheng W, Pan YL et al. 2002. New taxane diterpenoids from the leaves and twigs of *Taxus sumatrana*. J Nat Prod 65 (12): 1848-1852.

Shi L-S, Wu C-H, Yang T-C, Yao C-W, Lin H-C, Chang W-L. 2014. Cytotoxic effect of triterpenoids from the root bark of *Hibiscus syriacus*. Fitoterapia 97: 184-191.

Shiratak Y, Motohash N, Tani S, Sakagam H, Satoh K, Nakashima H, Mahapatra SK, Ganguly K, Dastidar SG, Chak AN. 2001. *In vitro* biological activity of prenylflavanones. Anticancer Res 21: 275-280.

Shod P, R Shri. 2018. A Review on ethnomedicine, phytochemical and pharmacological aspects of *Myrica esculenta*. Indian J Pharm Sci 80 (1): 2-13.

Shukla A, Ashish G, Pramod M, Jain CP. 2016. *Zizyphus oenoplia* Mill: a review on pharmacological aspects. Adv Pharm J 1 (1): 8-12.

Sidiyasa K. 1998. *Alstonia angustifolia*. *The IUCN Red List of Threatened Species*

Singh NK, Singh VP. 2014. Anticancer activity of the roots of *Ichnocarpus frutescens* R. Br. and isolated triterpenes. Pak J Pharm Sci 27 (1):187-191.

Smith P. 2019. The challenge for botanic garden science. Plants People Planet 1: 38-43.

Smith-Kielland I, Dornish JM, Malterud KE, Hvistendah G, Romming Chr, Bockman C, Kolsaker P, Stenstrom Y, Nordal A. 1996. Cytotoxic triterpenoids from the leaves of *Euphorbia pulcherrima*. Plant Med 62: 322-325.

Soib HH, Ware I, Yaakob H, Mukrish H, Sarmidi MR. 2015. Antioxidant and anti-cancer actvity of standardized extracts of three varieties of *Ficus deltoidea*'s leaves. Jurnal Teknologi 77 (3): 19-25. [Indonesian]

Solipuram R, Koppula S, Hurst A, Harris K, Naragoni S, Fontenot K, Gray W. 2009. Molecular and biochemical effects of a kola nut extract on androgen receptor-mediated pathways. J Toxicol 2009: 1-16.

Solowey E, Lichtenstein M, Sallon S, Paavilainen H, Solowey E, Lorberboum-Galski H. 2010. Evaluating medicinal plants for anticancer activity. Sci World J 2014: 1-12.

Song Y, Bétrisey S, Kozlowski G. 2019. *Pterocarya stenoptera*. The IUCN Red List of Threatened Species.

Songsiang U, Hahnvajanawong C, Yenjai C. 2011. Cytotoxicity of chemical constituents from the stems of *Dalbergia parviflora*. Fitoterapia 82 (8): 1169-1174.

Soyingbe OS, Mongalo NI, Makhafola TJ. 2018. *In vitro* antibacterial and cytotoxic activity of leaf extracts of *Centella asiatica* (L.) Urb, *Warburgia salutaris* (Bertol. F.) Chiov and *Curtisia dentata* (Burm. F.) C.A.Sm—Medicinal plants used in South Africa. BMC Complement Altern Med 18 (1): 315-324.

Stevens PF. 1998. *Calophyllum soulattri*. The IUCN Red List of Threatened Species.

Su Y-C, Ho C-L. 2017. Composition, *in vitro* cytotoxicity, anti-mildew and anti-wood-decay fungal activities of the fruit essential oil of *Liquidambar formosana* from Taiwan. Nat Prod Commun 12 (2): 287-290.

Su Y-C, Hsu K-P, Wang EI-C, Ho C-L. 2015. Composition, *in vitro* cytotoxic, and antimicrobial activities of the flower essential oil of *Diospyros discolor* from Taiwan. Nat Prod Commun 10 (7): 1311-1314.

Suastri NS, Hakim EH, Syah YM, Juliawaty LD, Achmad SA, Makmur L, Latif Z, Din L, Said IM. 2005. Metil linderon, senyawa calkon termodifikasi dari kayu batang *Lindera polyantha* (Lauraceae). Proceeding of The 6th ITB-UKM Joint Seminar on Chem Bali, Indonesia, 17-18 Mei 2005. [Indonesian]

Subarnas A, Diantini A, Abdulah R, Zuhrotun A, Yamazaki C, Nakazawa M, Koyama H. 2012. Antiproliferative activity of primates-consumed plants against MCF7 human breast cancer cell lines. J Med Res 1 (4): 38-43.

Sun Z, Wang H, Wang J, Zhou L, Yang P. 2014. Chem. composition and anti-inflammatory, cytotoxic and antioxidant activities of essential oil from leaves of *Mentha piperita* grown in China. PLoS ONE 9 (12): 1-15.

Supratman U, Naibaho W, Salam S, Maharani R, Hidayat AT, Harneti D, Nurlelasari, Shiono Y. 2019. Cytotoxic triterpenoids from the bark of *Chisocheton patens* Blume (Meliaceae). Phyto Chem Lett 30: 81-87.

Suthiwong J, Boonloh K, Kukongviriyapan V, Yenjai C. 2018. Cytotoxicity against cholangiocarcinoma and HepG2 cell lines of lignans from *Hernandia nymphaeifolia*. Nat Prod Commun 13(1): 61-63.

Suyatno, Hidajati N, Umami K, Sari IP. 2014. Flavonoids from Indonesian Silver Fern (*Pityrogramma calomelanos*) and their cytotoxicity against murine leukemia P-388 Cells. J Nat Sci Res 4 (15): 45-50.

Suzuki Y, Saito Y, Goto M, Newman DJ, O'Keefe BR, Lee K-H, Nakagawa-Goto K. (2018). (−)-Neocaryachine, an antiproliferative pavine alkaloid from *Cryptocarya laevigata*, induces DNA double-strand breaks. J Nat Prod 80 (1): 220-224.

Takeuchi S, Yoshiki Kono H, Mizutani T, Maruyama K, Nakayama R, Hiraoka A, Suzuki Y, Watanabe R, Kawarada A, Adisewojo SS. 1986. A bioactive polyphenolic constituent in the bark of *Pterocarpus indicus* Willd. I. Isolation and Characterization. Agric Biol Chem 50 (3): 569-573.

Tanaka R. 2000. Cancer chemopreventive agents, labdane diterpenoids from the stem bark of *Thuja standishii* (Gord.) Carr Cancer Lett 161 (2): 165-170.

Tanjung M, Mujahidin D, Hakim EH, Darmawan A, Syah YM. 2010. Geranylated flavonols from *Macaranga rhizinoides*. Nat Prod Commun 5 (8): 1209-1211.

Tavares W, Seca A. 2018. The current status of the pharmacological potential of *Juniperus L.* metabolites. Medicines 5 (3): 81-104.

Thomas P, Katsuki T, Farjon A. 2013. *Cryptomeria japonica*. The IUCN Red List of Threatened Species.

Thuaud F, Bernard Y, Türkeri G, Dirr R, Aubert G, Cresteil T, Baguet A, Tomasetto C, Svitkin Y, Sonenberg N, Nebigil CG, Désaubry L. 2009. Synthetic analogue of rocaglaol displays a potential and selective cytotoxicity in cancer cells: involvement of apoptosis inducing factor and caspase-12. J Med Chem 52 (16): 5176-5187.

Thun MJ, DeLAncey JO, Center MM, Jemal A, Ward EM. 2010. The global burden of cancer: priorities for prevention. Carcinogenesis 31 (1): 100-110.

Tian Q, Wang L, Sun X, Zeng F, Pan Q, Xue M. 2019. Scopoletin exerts anticancer effects on human cervical cancer cell lines by triggering apoptosis, cell cycle arrest, inhibition of cell invasion and PI3K/AKT signalling pathway. JBUON 24 (3): 997-1002.

Tu L, Zhao Y, Yu Z-Y, Cong Y-W, Xu G, Peng L-Y, Zhang P-T, Cheng X, Zhao Q-S. 2008. Six new dammarane triterpenoids from *Viburnum cylindricum*. Helvetica Chim Acta 91 (8): 1578-1587.

Turner A, Bond DR, Vuong QV, Chalmers A, Beckett EL, Weidenhofer J, Scarlett CJ. 2020. *Elaeocarpus reticulatus* fruit extracts reduce viability and induce apoptosis in pancreatic cancer cells *in vitro*. Mol Biol Rep 47 (3): 2073-2084.

Twilley D, Langhansová L, Palaniswamy D, Lall N. 2017. Evaluation of traditionally used medicinal plants for anticancer, antioxidant, anti-inflammatory and anti-viral (HPV-1) activity. South Afr J Bot 112: 494-500.

Uddin MN, Ahmed T, Pathan S, Al-Amin Md. M, Rana Md. S. 2015. Antioxidant and cytotoxic activity of stems of *Smilax zeylanica in vitro*. Basic Clin Physiol Pharmacol.

Ukiya M, Kikuchi T, Tokuda H, Tabata K, Kimura Y, Arai T, Ezaki Y, Oseto O, Suzuki T, Akihisa T. 2010. Antitumor-promoting effects and cytotoxic activities of dammar resin triterpenoids and their derivatives. Chem Biodivers 7 (8): 1871-1884.

Usman H, Hakim EH, Harlim T, Jalaluddin MN, Syah YM, Achmad SA, Takayama H. 2006. Cytotoxic chalcones and flavanones from the tree bark of *Cryptocarya costata*. Zeitschrift Für Naturforschung C 61 (3-4): 184-188.

Valente MJ, de Pinho PG, Henrique R, Pereira JA, Carvalho M. 2012. Further insights into chemical characterization through GC–MS and evaluation for anticancer potential of *Dracaena draco* leaf and fruit extracts. Food Chem Toxicol 50 (10): 3847-3852.

Valkute TR, Aratikatla EK, Gupta NA, Ganga S, Santra MK, Bhattacharya AK. 2018. Synthesis and anticancer studies of Michael adducts and Heck arylation production of sesquiterpene lactones, zaluzanin D and zaluzanin C from *Vernonia arborea*. RSC Adv 8 (67): 38289-38304.

Venkatesan T, Park E-J, Choi Y-W, Lee J, Kim Y-K. 2017. Anti-inflammatory activity of *Ternstroemia gymnantherastem* bark extracts inbacterial lipopolysaccharide-stimulated RAW264.7 murine macrophage cells. Pharm Biol 55 (1): 837-846.

Vuong QV, Hirun S, Chuen TLK, Goldsmith CD, Munro B, Bowyer BC, Chalmers AC, Sakoff JA, Phillips PA, Scarlett CJ. Physicochemical, antioxidant and anti-cancer activity of a *Eucalyptus robusta* (Sm.) leaf aqueous extract. Ind Crops Prod 64 (2015): 167-174.

Wahyu W, Wijaya L, Teresa L. Wargasetia, Bachtiar I, Yellianty, Laksmitawati DR. 2013. Antioxidant, anticancer, and apoptosis-

inducing effects of piper extracts in HeLa cells. J Exp Integr Med 3 (3): 225-230.
Wahyuni I, Dwianto W, Amin Y, Darmawan T. 2008. Timber tree species in Cibodas Botanic Gardens. Jurnal Ilmu dan Teknologi Hasil Hutan 1 (2): 93-101. [Indonesian]
Wang P, Yang HL, Yang YJ, Wang L, Lee SC. 2015. Overcome cancer cell drug resistance using natural products. Evidence-Based Complement Alt Med 2015: 1-14.
Wang T, Wu X, Liu Y, Luo Y, Li X, Zhou Y, Yang A, Yan Z, Ye L, Chen S, Fu J, Jiao X. 2018. Chemical constituents from ethanol extract of *Polyalthia rumphii* branches and their cytotoxicity evaluation. Rev Brasileira farmacognosia 28 (2): 235-238.
Wang Y-Q, Tan J-J, Tan C-H, Jiang S-H, Zhu D-Y. (2003). Halophilols A and B, two new stilbenes from *Iris halophila*. Plant Med 69: 779-781.
Wattanapiromsakul C, Wangsintaweekul B, Sangprapan P, Itharat A, Keawpradub N. 2005. Goniothalamin, a cytotoxic compound, isolated from *Goniothalamus macrophyllus* (Blume) Hook. F. & Thomson var. Macrophyllus. Songklanakarin J Sci Technol 27 (2): 479-487.
Weerapreeyakul, Natthida, Sasipawan Machana and Sahapat Barusrux. 2016. Synergistic effects of melphalan and *Pinus kesiya* Royle ex Gordon (Simaosong) extracts on apoptosis induction in human cancer cells. Chin Med 11 (1).
Wegier A, Lorea Hernández F, Contreras A, Tobón W, Mastretta-Yanes A. 2017. *Persea americana* (errata version published in 2018). The IUCN Red List of Threatened Species.
Wheeler L, Beech E. 2019. *Bixa orellana*. The IUCN Red List of Threatened Species.
Wong FC, Woo CC, Hsu A, Tan BKH. 2013. The anti-cancer activities of *Vernonia amygdalina* extract in human breast cancer cell lines are mediated through caspase-dependent and p53-independent pathways. PLoS ONE 8(10): 1-15.
World Conservation Monitoring Centre. 1998. *Alangium javanicum*. The IUCN Red List of Threatened Species.
World Conservation Monitoring Centre. 1998. *Alstonia scholaris*. The IUCN Red List of Threatened Species.
World Conservation Monitoring Centre. 1998. *Cratoxylum formosum*. The IUCN Red List of Threatened Species.
World Conservation Monitoring Centre. 1998. *Diospyros celebica*. The IUCN Red List of Threatened Species.
World Conservation Monitoring Centre. 2018. *Biancaea sappan* (amended version of 1998 assessment). The IUCN Red List of Threatened Species 2018.
Wu D-P, Lin T-Y, Lv J-Y, Chen W-Y, Bai L-R, Zhou Y, Huang J-L, Zhong Z-G. 2017. *Cestrum nocturnum* flower extracts attenuate proliferation and induce apoptosis in malignant cells through inducing DNA damage and inhibiting topoisomerase II activity. Evidence-Based Complement Altern Med 2017: 1-8.
Wu J, Yi W, Jin L, Hu D, Song B. 2012. Antiproliferative and cell apoptosis-inducing activities of compounds from *Buddleja davidii* in Mgc-803 cells. Cell Div 7: 20-10.
Wu L, Wu J, Chen S-P, Li Z-J, Zhang J, Yuan E, Ma G-Q, Jin L, Hu J-W. 2019. Chemical constituents of the twigs of *Elaeocarpus sylvestris*. Chem Nat Compd 55 (2): 324-326.
Wu Q, Yang X-W. 2009. The constituents of *Cibotium barometz* and their permeability in the human CaCo-2 monolayer cell model. J Ethnopharmacol 125 (3): 417-422.
Wu T-S, Su C-R, Lee K-H. 2012. Cytotoxic and Anti-HIV Phenanthroindolizidine alkaloids from *Cryptocarya chinensis*. Nat Prod Commun 7 (6): 725-727.
Xu R-L, Wang R, Ding L, Shi Y-P. 2013. New cytotoxic steroids from the leaves of *Clerodendrum trichotomum*. Steroids 78 (7): 711-716.
Yang J, Chen J, Bi H, Gu H, Liu Z, Peng W. 2020. Molecules and functions of rosewood: *Pterocarpus indicus*. Therm Sci 24 (3A): 1869-1876.
Yang S, Zhao Q, Xiang H, Liu M, Zhang Q, Xue W, Song B, Yang S. 2013. Antiproliferative activity and apoptosis-inducing mechanism of constituents from *Toona sinensis* on human cancer cells. Cancer Cell Int 13(1): 12-19.
Ye J, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Glochidion zeylanicum*. The IUCN Red List of Threatened Species.
Ye J, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Leea indica*. The IUCN Red List of Threatened Species.
Ye J, Qin H, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Pistacia chinensis*. The IUCN Red List of Threatened Species.
Ye J, Qin H, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Ziziphus oenopolia*. The IUCN Red List of Threatened Species.
Yen H-F, Wang S-Y, Wu C-C, Lin W-Y, Wu T-Y, Chang F-R, Wang C-K. 2020. Cytotoxicity, anti-platelet aggregation assay and chemical components analysis of thirty-eight kinds of essential oils. J Food Drug Anal 20 (2): 478-483
Yessoufou K. 2015. Antifungal, antibacterial and anticancer activities of *Ficus drupacea* L. stem bark extract and biological active isolated compounds. Ind Crops Prod 74: 752-758.
Yoon J-H, Pham T-H, Lee J, Lee J, Ryu H-W, Oh S-R, Oh J-W, Yoon D-Y. 2020. Methyl linderone suppresses TPA-Stimulated IL-8 and MMP-9 expression via the ERK/STAT3 pathway in MCF7 breast cancer cells. J Microbiol Biotechnol 30 (3): 325-332.
Yu J, Li G, Mu Y, Zhou H, Wang X, Yang P. 2019. Anti-breast cancer triterpenoid saponins from the thorns of *Gleditsia sinensis*. Nat Prod Res 33 (16): 2308-2313.
Yu, S, Qin H, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Cerbera manghas*. The IUCN Red List of Threatened Species.
Yudistira A. 2017. Uji aktivitas anti kanker payudara ekstrak daun pinang yaki (*Areca vestiaria* Giseke.) terhadap sel kanker payudara T-47D. Pharmacon Jurnal Ilmiah Farmasi 6 (4): 275-281. [Indonesian]
Yuenyongsawad S, Bunluepuech K, Wattanapiromsakul C, Tewtrakul S. 2013. Anti-cancer activity of compounds from *Bauhinia strychnifolia* stem. J. of EthnoPharmacol. 150(2): 765–769.
Zeng Y, Liu X, Lv Z, Peng Y. 2012. Effects of *Ficus hirta* Vahl. (Wuzhimaotao) extracts on growth inhibition of HeLa cells. Exp Toxicol Pathol 64 (7-8): 743–-749.
Zhang J, Yu Y, Liu D, Liu Z. 2007. Extraction and composition of three naturally occurring anti-cancer alkaloids in *Camptotheca acuminata* seed and leaf extracts. Phyto Med 14 (1): 50-56.
Zhang Y-Y, Chen J-J, Li D-Q, Zhang Y, Wang X-B, Yao G-D, Song S-J. 2019. Network pharmacology uncovers anti-cancer activity of vibsane-type diterpenes from *Viburnum odoratissimum*. Nat Prod Res 1-4.
Zhao L, Yu S, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Diospyros japonica*. The IUCN Red List of Threatened Species.
Zhao L, Yu S, BGCI & IUCN SSC Global Tree Specialist Group. 2019. *Elaeocarpus petiolatus*. The IUCN Red List of Threatened Species.
Zhou T, Yang Y, Zhang H, Che Y, Wang W, Lv H, Li J, Wang Y, Hou S. 2014. *Serenoa repens* induces growth arrest, apoptosis and inactivation of STAT3 signaling in human glioma cells. Tech Cancer Res Treat 14 (6): 729-736.

Table 3. List of CBG plants collection with anticancer properties

Family	Species	Common name	Cell line	Extraction method	IC_{50} (µg/ml)	Reference	Anticancer activity category*	Origin	Cons. status	Location in CBG
Acanthaceae	*Acanthus montanus* (Nees) T.Anderson	Daruju	BT-549 BT-20 PC-3	Crude	>200 >200 >200	(Fadeyi et al. 2013)	III	Trop. Africa	LC (Ghogu, 2010)	I.D.34; I.F.12.
Acanthaceae	*Strobilanthes cernua* Blume	Bubukuan kembang bidas	HeLa	Crude	968.26	(Arbiastutie 2017)	III	W. Java	N/A	V.A.77-77A; VII.B.171.
Acoraceae	*Acorus calamus* L.	Jeringau	MDA-MB-435S Hep3B	Crude	13.71 ± 6.66 32.74 ± 4.55	(Rajkumar et al. 2009)	II	S. Sumatra	LC (Lans-down, 2014)	XIV.A.99-99a.
Adoxaceae	*Sambucus javanica* Blume	Sangitan	N/A	N/A	N/A	(Putra and Rifa'i 2019)	IV. Reduces necrotic cells incidence in lung samples of mice lung cancer	Java	LC (BGCI and IUCN, 2018)	IV.A.52; XII.A.14-14a.
Adoxaceae	*Sambucus nigra* L.	Eur. elderberry	MCF7 LOVO	Crude	16.9 ± 0.4 12.9 ± 0.3	(Gleńsk et al. 2017)	II	S. Sumatra	LC (Bilz, 2020)	XII.A.50.
Adoxaceae	*Viburnum cylindricum* Buch. Ham. ex D. Don	Tubeflower viburnum	HL-60	Subfraction	>100	(Tu et al. 2008)	III	W. Java	N/A	VI.E.119; XVIII.A.35, 43.XV.III.A.39-39a39b, 41, 61.
Adoxaceae	*Viburnum odoratissimum* Ker Gawl.	Sweet viburnum	HL-60 A549 SMMC-7721 MCF7 SW-480	Subfraction	0.069 0.320 0.190 0.223	(Zhu et al. 2018; Y.-Y. Zhang et al. 2019)	I.A. Contains 15,18-O-diacetyl-15-O-methylvibsanin U, and in silico study	India, Japan, S. China	LC (Lai, et al., 2019)	I.B.21; I.K.3-3a; II.D.18.
Adoxaceae	*Viburnum sambucinum* Reinw. ex Blume	Buas-buas	KB LU-1 HepG2 MCF7	Subfraction	2.09 2.09 2.04 2.01	(T. T. Nguyen et al. 2017)	I.A Contains hupehenol A	W. Java	LC (Old-field, 2020)	XVIII.A.17, 42-42a.
Adoxaceae	*Viburnum suspensum* Lindl.	Sanandkwa	N/A	Subfraction	N/A	(Fukuyama et al. 2002)	IV Contains vibsanin	Japan	N/A	IV.A.16.
Altingiaceae	*Liquidambar formosana* Hance	Formosa sweet gum	OEC-M1 J5 A549	Subfraction	15.6 32.1 19.3	(Su and Ho 2017)	II Contains Ꞇ-muurolol	C. China, Formosa	LC (Crowley, et al., 2018)	III.F.37-37a-37b; IV.C. 58-58a; V. B.36 -36a; IX.A. 104b.
Amaryllidaceae	*Agapanthus africanus* (L.) Hoffmanns.	Blue african lily	N/A	N/A	N/A	(Chanchal et.al. 2018)	IV Contains isoliquiritigenin	S. Africa	N/A	I.H.50; III.D.20; VI.C.50.

Amaryllidaceae	*Crinum abyssinicum* Hochst. ex A.Rich.	Swamp lily	N/A	N/A	N/A	(Abebe 2016)	IV Contains lycorine, crimine, narciclasine, 3-epihalmanthidine, crinamine, lycobetaine precriwelline, crinamide, crinafolidine, criasbetaine, crinasiadine, crinasiatine and crotepoxide	N/A	N/A	I.G.137.
Amaryllidaceae	*Crinum macowanii* Baker	Common vlei-lily	A549 U87-MG	Crude	12.5 - 25 6.25	(Sebola et al. 2019)	I.D. Contains bacterial endophytes *Acinetobacter guillouiae* that displayed anticancer activity.	Trop. Africa	N/A	I.H.31.
Amaryllidaceae	*Crinum* × *powellii* Baker	Cape lily	HepG2 HCT-116	Crude	13.78 17.27	(Shawky et al. 2018)	II	Hybrid Origin	N/A	I.H.34; I.K.21 -21a-21b; .A.15.
Amaryllidaceae	*Crinum zeylanicum* (L.) L.	Ceylon swamp lily	CCRF-CEM CEM/ADR5000 MDA-MB-231 MDA-MB-231/ BCRP HCT-116 (p53+/+) HCT-116 (p53−/−)	Crude	17.22 ± 2.19 23.67 ± 1.97 18.01 ± 1.61 11.18 ± 1.11 4.32 ± 0.52 7.45 ± 0.64	(Berkov et al. 2011; Kuete et al. 2013)	I.C Contains crinine	Africa, Trop. Asia	N/A	I.H.38.
Amaryllidaceae	*Hymenocallis speciosa* (L.f. ex Salisb.) Salisb.	Bakung air mancur, spider lily	N/A	N/A	N/A	(Kornienko and Evidente 2008)	IV Contains narciclasine (lycoricidinol) and pancratistatin,	N/A	N/A	II.10.
Anacardiaceae	*Pistacia chinensis* Bunge	Pistacia cina	PC-3 HepG2 MCF7 A549	Crude	30.29 132.30 27.64 83.53	(Kirollos et al. 2019)	II	China	LC (Ye, et al. , 2019)	XV.B.22.
Anacardiaceae	*Schinus terebinthifolius* Raddi	Pink pepper	HepG2 CaCo-2	Crude	1.56 3.77	(El-Nashar et al. 2019)	I.D	Brazil	N/A	IV.C.10; XV.B.11-11b.
Anacardiaceae	*Schinus weinmannifolius* Engl.	N/A	HT-29 NCI-H460	Crude	5 2	(Monks et al. 2002)	I.D	Brazil	N/A	IV.C.11; XIII.A.15a-15b.

Annonaceae	*Cananga odorata* (Lam.) Hook.f. and Thomson	Ylang-ylang, kenanga	HepG2 Hep2,2,15	Subfraction	0.01 0.01	(Hsieh et al. 2001)	I.B Contains cryptomeridiol 11-R-L-rhamnoside and γ-eudesmol	Java Aceh W. Java N. Sumatra	LC (IUCN and BGCI, 2019)	VI.D.138-138a; VI.D.146; VI.D.142; VI.D.165.
Annonaceae	*Goniothalamus macrophyllus* (Blume) Hook.f. and Thomson	Ki Cantung	COR-L23 LS-174T MCF7	Crude	3.16 ± 01.14 3.80 ± 0.00 4.66 ± 0.04	(Wattana-piromsakul et al. 2005)	I.C Contains goniothalamin	W. Java C. Sulawesi	N/A	VI.D.115, 128, 145, 179; VI.D.177.
Annonaceae	*Polyalthia rumphii* (Blume ex Hensch.) Merr.	Mempisang	HeLa MCF7 A549	Subfraction	26.9 32.9 33.4	(T. Wang et al. 2018)	II Contains N-trans-cinnamoyltyramine and northalifoline	W. Java	N/A	VI.D.180.
Annonaceae	*Polyalthia subcordata* (Blume) Blume	Nona leuweung	HeLa	Crude	>1000	(Arbiastutie 2017)	III	Java W. Java	N/A	VI.D.60; VI.D.192.
Annonaceae	*Uvaria grandiflora* Roxb. ex Hornem.	Akar mempisang	MDA-MB-231 HepG2	Subfraction	20.82 >30.72	(Seangphak-dee et al. 2013)	III. Contains (-)-zeylenol	W. Java	N/A	V.B.45-45a; 46-46a.
Apiaceae	*Centella asiatica* (L.) Urb.	Pegagan	MCF7 CaCo-2 HeLa A549	Crude	49.36 ± 0.0 81.88 ± 1.4 56.88 ± 0.7 46.49 ± 0.0	(Soyingbe et al. 2018)	II Contains asiatic acid	S. Africa, S. E. Asia	LC (Lansd-own, 2019)	I.G.183.
Apocynaceae	*Alstonia angustifolia* Wall. ex A.DC.	Red-leafed pulai	HT-29	Subfraction	4.61	(Pan et al. 2014)	II Contains villalstonidine E	W. Sumatra	LC (Sidi-yasa, 1998)	VII.C.316-316a.
Apocynaceae	*Alstonia scholaris* (L.) R. Br.	Pulai, jelutung, lame	HeLa HepG2 HL-60 KB MCF7	Crude	5.53 25 11.16 10 29.76	(Jagetia and Baliga 2006)	I.C	Aceh Kaliman-tan W. Java	LC (World Conser-vation Monitor-ing Centre, 1998)	VII.C.120-120a;.XVIII. B.30-30a; VII.C.327-327a-327b; 350-350a; 442-442a;
Apocynaceae	*Asclepias curassavica* L.	Kapas cinde	HepG2 Raji	Subfraction	10.64	(Li et al. 2009; Iqbal et al. 2017)	III Contains asclepin	France	N/A	XII.B.52.
Apocynaceae	*Cerbera manghas* L.	Bintaro	KB BC NCI-H187	Subfraction	0.05 0.0006 0.1	(Cheenpra-cha et al. 2004)	I.A. Contains cardenolide glycoside, deacetyltanghinin, and tanghinin	W. Java	LC (Yu, et al., 2019)	VIII.C.106-106a-106b.
Apocynaceae	*Ichnocarpus frutescens* (L.) W.T.Aiton	Black creeper	MCF7 BEL-7402 SPC-A1 SGC-7901	Crude	172.2 ± 3.9 167.2 ± 3.2 155.3 ± 4.1 131.7 ± 1.5	(Singh and Singh 2014)	III	N/A	N/A	CL.60

Apocynaceae	*Ochrosia elliptica* Labill.	Elliptic yellow wood	MCF7 MDA-MB-231	Subfraction	0.11 ± 0.02 0.11 ± 0.01	(El-shiekh et al. 2017)	I.B Contains 9-methoxyellipticine	Kaliman-tan	N/A	VII.B.76.
Apocynaceae	*Tabernaemontana macrocarpa* Jack	Lelutung Tokak	L1210	Crude	6.039 7.145	(Pratiwi et al. 2014)	I.D	W.Java W. Sumatra	LC (BGCI and IUCN, 2018)	VII.C.408; VII.C.404-404a.
Araliaceae	*Panax ginseng* C.A.Mey	Ginseng	MK-1 B16 L929	Subfraction	0.027 ± 0.00 1.23 ± 0.03 2.50 ± 0.28	(Matsunaga et al. 1990; K.-K. Li et al. 2019)	I.A Contains panaxylol, panaxydol, panaxytriol, and 24(S)-floralginsenoside	C. Java	N/A	I.G.209.
Arecaceae	*Areca vestiaria* Giseke	*Pinang merah*	T-47D	Crude	290.68	(Yudistira 2017)	III	Borneo to Maluku Sulawesi C. Sulawesi	N/A	X.A.21-21a; II.B.20; II.B.49; XIII.A.117.
Arecaceae	*Serenoa repens* (W.Bartram) Small	*Saw palmetto*	U87 U251	Crude	1,0 1,1	(Habib et al. 2005, Zhou et al. 2015)	I.D Commercial cancer drug Permixon®	China	N/A	XIII.A.59.
Aristolochiaceae	*Aristolochia trilobata* L.	Bejuco de santiago	N/A	N/A	N/A	(Santos et al. 2014; Chang et al. 2015)	IV Contains linalool	Nether-lands	N/A	I.A.87
Asparagaceae	*Agave americana* L.	Lidah buaya america	MCF7	Crude	5	(Pandey et al. 2019)	I.D	Mexico	LC (García-Mendoza et al,. 2019)	II.D.17-17a-17b; IV.B.7a, 27.
Asparagaceae	*Agave attenuata* Salm-Dyck	Fox tail	N/A	N/A	N/A	(Rizwan et al. 2012)	IV Antiinflamation	Mexico	LC (García-Mendoza, et al. 2019)	I.D.24-24a-24c; IV.B.49.
Asparagaceae	*Agave salmiana* Otto ex Salm-Dyck	Giant agave	HT-29	Crude	3.8 ± 1.3	(Santos-Zea et al. 2016)	I.D	Mexico	LC (García-Mendoza et al. 2019)	II.D.36-36a.
Asparagaceae	*Dracaena draco* (L.) L.	Dragon tree	CaCo-2 A498	Crude	85.1 ± 6.9 176.2 ± 18.2	(Valente et al. 2012)	III	Canary Isl.	VU (Bañareset al. 1998)	I.E.2.
Asparagaceae	*Eucomis autumnalis* (Mill.) Chitt.	Pineapple Lily	Huh7	Crude	7.8	(Bisi-Johnson et al. 2011)	I.D	S. Africa	N/A	I.I.28.
Asparagaceae	*Eucomis comosa* (Houtt.) Wehrh.	Slender pineapple flower	N/A	N/A	N/A	(Masondo et al. 2014)	IV Inhibitor COX-1 and COX-2	Africa	N/A	I.G.53; I.H.8, 45, 58; III.D.18.

Asparagaceae	*Sansevieria ehrenbergii* Schweinf. ex Baker	Samurai sansevieria	BxPX-3 MCF7 SF-268 NCI-H460 KM20L2 DU-145	Subfraction	0.93 0.62 0.68 0.26 0.22 0.42	(Magadula and Erasto 2009)	I.A Contains sansevistatin 2	Abyssinia	N/A	I.D.11.
Asparagaceae	*Yucca aloifolia* L.	Spanish bayonet	A549 HepG2 CaCo-2 MCF7	Crude	271.5 61.55 871.5 1584	(El Hawary et al. 2018)	II	S. America Mexico	N/A	XII.A.30-30a-30b; II.D.10-10a-10b.
Asparagaceae	*Yucca glauca* Nutt.	Yuka, soapweed yucca	B16	Crude	N/A	(Patel 2012)	IV Contains yuccaol	N/A	LC (Rowe and Puente 2020)	XII.A.23-23a
Asparagaceae	*Yucca gloriosa* L.	Yuka amerika	HBL-100	Crude	>156.25	(Obaid et al. 2017)	III	N/A	N/A	I.D.7; IV.B.10; XII.A.19.
Athyriaceae	*Diplazium esculentum* (Retz.) Sw.	Paku sayur	MDA-MB-231	Crude	1.62	(Rahmat et al. 2003)	I.D	N/A	LC (Iruda-yaraj 2011)	PT.122.
Berberidaceae	*Mahonia fortunei* (Lindl.) Fedde	Ki koneng	MCF7 A431 U87-MG	Crude	>50	(Rezadoost et al. 2019)	III	China	N/A	I.K.31; IV.A.13-13a; V.A.20.
Betulaceae	*Alnus japonica* (Thunb.) Steud	Alder	B16 SNU-1 SNU-354 SNU-C4	Subfraction	8.12 13.39 23.15 21.53	(Choi et al. 2008)	II Contains oregonin, 1,7-bis-(3,4-dihydroxyphenyl)-heptane-3-O-β-D-glucopyranosyl(1→3)-β-D-xylopyranoside, and platyphylloside	Formosa, N.E. Asia	LC (Shaw et al. 2014)	VI.C.46a, 82-82a; VII.C.70-70b-70c; VIII.B.207; IX.A.92-92a.
Bignoniaceae	*Oroxylum indicum* (L.) Kurz	Bungli, pongporang	Hela	Crude	112.3 ± 4.4	(Moirang-them et al. 2013)	III	Kalimantan	N/A	VIII.C.20-20a, 91-91a.
Bignoniaceae	*Tabebuia hypoleuca* (C.Wright ex Sauvalle) Urb.	Bunga tabebuya	UACC-62 MCF7 786–0	Crude	N/A	(Perera et al. 2019)	I.C. Due to Total growth inhibition (TGI), it was classified as potent activity to three assayed cell lines.	Cuba	LC (Areces-Mallea 1998)	VI.A.37.

Bignoniaceae	*Tecoma stans* (L.) Juss. ex Kunth	Yellow elder, bunga terompet kuning	HT-29 NCI-H460	Crude	90 97	(Monks et al. 2002)	II	Trop. America	LC (BGCI and IUCN 2019)	XII.B.32-32a.
Bixaceae	*Bixa orellana* L.	Kesumba, prada, galuga	B16F10	Crude	121.60 ± 6.2	(Kumar and Periyasamy 2016)	III	Australia	LC (Whee-ler and Beech 2019)	VI.A.38a.
Blechnaceae	*Blechnum orientale* L.	Paku leuncir, paku lubang	HT-29	Crude	27.5 ± 1.4	(H. Y. Lai et al. 2010)	II	N/A	N/A	PT.74.
Buxaceae	*Buxus microphylla* Siebold and Zucc.	Japanese boxwood	HL-60 SMMC-7721 A549 MCF7 SW-480	Subfraction	8.20 9.20 6.95 2.67 8.10	(Bai et al. 2017)	I.A Contains buxmicrophylline R	China	LC (BGCI and IUCN, 2019)	II.C.70-70a
Buxaceae	*Buxus papillosa* C.K.Schneid	Boxwood	MCF7 MDA-MB-231 CaSki DU-145 SW-480	Crude	26.00 14.19 39.99 99.17 47.29	(Saleem et al. 2019)	II	China, N. Africa, S. Europe	N/A	G.42; I.I.1-1a-1b; IV.C. 1; V.A.29; VI.C.78-78a.
Cactaceae	*Opuntia microdasys* (Lehm.) Pfeiff.	Kaktus bunny ears	MCF7 HCT-15 HeLa HepG2	Crude	>400 97 ± 1 117 ± 4 238 ± 5	(Chahdoura et al. 2016)	II	N/A	LC (Bár-cenas 2017)	CA.B.6; CB.B.2.
Cactaceae	*Opuntia robusta* J.C. Wendl.	Wheel cactus	HT-29 CaCo-2	Crude	N/A	(Serra et al. 2013)	IV Contains betasianin	N/A	LC (Her-nández et al. 2017)	CA.C.1.
Campanulaceae	*Lobelia laxiflora* Kunth	Lobelia meksiko	KB	Crude	3.2	(Alonso-Castro et al. 2011)	I.D	Mexico	N/A	I.K.8; IV.A.80-80a-80b.
Chloranthaceae	*Sarcandra glabra* (Thunb.) Nakai	Bone-knitted lotus	HL-60	Crude	58	(W. Li et al. 2007)	II	W. Java Flores	N/A	V.A.62-62a-62b, 63-63a; V.A.67-67a.
Celastraceae	*Catha edulis* (Vahl) Endl.	Khat	MCF7 A2780 HT-29	Crude	22.65 ± 3.51 20.97 ± 5.03 39.22 ± 0.10	(Alsanosy et al. 2020)	II	Arabic, N. Africa	LC (Hilton-Taylor 1998)	I.J.13.
Cibotiaceae	*Cibotium barometz* (L.) J.Sm.	Paku simpai	CaCo-2	N/A	N/A	(Q. Wu and Yang, 2009)	IV Antiinflamation	N/A	N/A	PT.108, 160.

:

Clusiaceae	*Calophyllum soulattri* Burm.f.	Bintangor	SNU-1 HeLa NCI-H23 HepG2 K-562 Raji LS-174T SK-MEL-28 IMR-32	Subfraction	1.56 2.18 2.08 2.86 1.75 2.02 2.49 1.45 0.54	(Mah et al. 2012)	I.A. Contains soulattrin, caloxanthone C	Jambi W. Java	LC (Steven 1998)	IX.B.67; IX.C.42a.
Clusiaceae	*Garcinia celebica* L.	Seashore Mangosteen	MCF	Crude	87	(Subarnas et al. 2012)	II	Aceh, C. Sulawesi	N/A	IX.C.9; VIII.C.93.
Clusiaceae	*Garcinia dioica* Blume	Asam kandis	N/A	N/A	N/A	(Hemshe-khar et al. 2011)	IV Contains rubraxanthone	W. Java	N/A	IX.C.32-32a.
Clusiaceae	*Garcinia dulcis* (Roxb.) Kurz	Mundu	HepG2	Crude	7.5 ± 2.52	(Abu Bakar et al. 2015)	I.D	C. Sulawesi	LC (BGCI and IUCN 2019)	IX.C.55.
Clusiaceae	*Garcinia lateriflora* Blume	Gamboge	HT-29	Subfraction	0.36	(Ren et al. 2010)	I.B. Contains morellic acid	Aceh	N/A	IX.C.33.
Clusiaceae	*Garcinia latissima* Miq.	Kandis	N/A	N/A	N/A	(Imran et al. 2019; Purbowati and Ersam 2019)	IV Contains kaemferol	Papua	N/A	VII.B.133-133a.
Clusiaceae	*Garcinia rostrata* (Hassk.) Miq.	Lulai, loli	MCF7	Crude	65 ± 40	(Jabit et al. 2009)	II	Bengkulu	N/A	IX.C.68.
Clusiaceae	*Garcinia* x *mangostana* L.	Manggis	MCF7 A549 HepG2 CNE	Subfraction	2.93 2.03 1.78 1.59	(Fu et al. 2013)	I.A Contains garcinon C	W. Java	N/A	IX.C.54, 57.
Combretaceae	*Terminalia calamansanay* Rolfe	Philippine Almond	HeLa HepG2 T24 HL-60	Subfraction	141.05 96.85 38.86 24.11	(L.-G. Chen et al. 2009)	II Contains Punicalagin, Sanguiin H-4	S. Sulawesi	LC (BGCI and IUCN, 2019)	VIII.B.98.
Compositae	*Achillea millefolium* L.	Yarrow, daun seribu, tepus sigung	MIA-PaCa2 PANC-1	Crude	28.8 ± 15.8 >100	(Mouhid et al. 2018)	II	C. Asia, Europe	LC (Maiz-Tome 2016)	I.G.69; I.J.I.1; III.D.12.
Compositae	*Achillea ptarmica* L.	Sneezewort yarrow	N/A	N/A	N/A	(Ee et al. 2010; Althaus et al. 2014)	IV Contains pellitorine	Japan	LC (Bilz 2013)	I.J.I.2; III.D.2.
Compositae	*Eclipta prostrata* (L.) L.	Karichalai, false daisy, luwisa	HeLa	Subfraction	50	(Kannabiran and Khanna 2009)	II Contains dayscyphin C	Africa	LC (Lans-down and Beentje H.J. 2017)	I.G.181.
Compositae	*Gerbera jamesonii* Bolus ex Hook.f.	Gerbera	A549	N/A	N/A	(Agarwal et al. 2014)	IV. Antiproliferatif and antimetastasis	S. Africa	N/A	I.G.75; III.D.10.

Compositae	*Smallanthus sonchifolius* (Poepp.) H.Rob	Daun insulin, yakon	HepG2	Crude	58.2 ± 1.9	(Myint et al. 2019)	II	Japan	N/A	V.A.56.
Compositae	*Taraxacum campylodes* G.E.Haglund	Anddelion	MCF7	Crude	190.5	(Mu-hammed et al. 2018)	III	Europe	N/A	I.G.78.
Compositae	*Tithonia diversifolia* (Hemsl.) A.Gray	Bunga matahari meksiko	HeLa	Crude	3.38	(Arbiastutie 2017)	I.D	C. America	N/A	I.K.50; III.D.6.
Compositae	*Vernonia amygdalina* Delile	Daun pahit, daun afrika	MCF7 MDA-MB-231	Crude	56 46	(Wong et al. 2013)	II	China	N/A	III.E.38-38a.
Compositae	*Vernonia arborea* Buch. -Ham.	Merambung	MCF7 MDA-MB-231 MCF10A	Subfraction	8.02 6.13 19.32	(Valkute et al. 2018)	II Contains (3R,3aS,6aR,8S,9aR,9bS)-8-Hydroxy-6,9-dimethylene-3-((((R)-1-(naph-thalen-1-yl)ethyl)-amino)methyl)decahydroaz uleno [4,5-b] furan-2(3H)-one and (3R,3aS, 6aR,8S,9aR,9bS)-8-Hydroxy-6,9-di-methylene-3-((((R)-1-(naphthalen-1-yl)ethyl)amino)methyl)dec ahydroazuleno [4,5-b] furan-2(3H)-one	W. Sumatra W. Java Jambi	N/A	VII.C.3; III.E.43, 47; VI.E.129; VII.C.208.
Cornaceae	*Alangium chinense* (Lour.) Harms	Kicareuh	HeLa	Crude	>12.5	(Fan et al. 2017)	II	China, India Jambi W. Java	N/A	V.A.20; VI.A.15-15a; VI.E. 76; VII.C. 193; VII.B. 10-10a;
Cornaceae	*Alangium javanicum* (Blume) Wangerin	Meranti putih	N/A	N/A	N/A	(Pham et al. 2005)	IV. Contains javanisida and alangisida	Lampung	LC (World Conser-vation Monito-ring Centre, 1998)	VI.A.50.

Cornaceae	*Camptotecha acuminata* Decne.	Pohon bahagia	MDA-MB-435S	Subfraction	0.74	(J. Zhang et al. 2007; Lichota and Gwozdzin-ski 2018)	I.B Contains camptothecin	N/A	N/A	IV.E.38;
Costaceae	*Cheilocostus speciosus* (J.Koenig) C.D.Specht	Crepe ginger	HepG2	Crude	13.87 ± 1.4	(Gheraibia et al. 2020)	II	W. Java	N/A	I.K.142.
Crassulaceae	*Kalanchoe beharensis* Drake	Elephant's ear kalanchoe, kalanchu	HL-60 HL-60R	Essential oil	25.0 ± 0.6 36.5 ± 0.3	(Poma et al. 2019)	II	N/A	VU (Rabehevitra 2019)	VI.D.62, 144.
Cupressaceae	*Cryptomeria japonica* (Thunb. ex L.f) D.Don	Sugi, Japanese cedar	KB	Subfraction	3.43	(C.-C. Chen et al. 2010)	I.B Contains crytotrione	China, Japan Japan	NT (Thomas et al. 2013)	I.J.15-15a; I.K.201-201a; II.B. 11; III.B.12-12a-12b; XII.B.22; XIV.B.22-22a-22b; III.C.58-58a-58b.
Cupressaceae	*Cupressus lusitanica* Mill.	Cemara meksiko	THP-1 DU-145 HeLa MCF7 HepG2	Crude	60.8 ± 5.8 74.6 ± 6.1 83.1 ± 6.7 13.1 ± 0.9 93.8 ± 7.4	(Mbaveng et al. 2011)	II	Guatema-la, Mexico	N/A	I.J.4; III.E.3; VI.A.25; VI.E.6-6a.
Cupressaceae	*Cupressus sempervirens* L.	Cemara italia	NBA-4 HL-60 EACC C32	Essential oil	333.79 365.41 372.43 104.90	(Loizzo et al. 2008; (Fayed 2015)	III	Europe N. India, S. Europe, W. Asia	LC (Farjon 2013)	III.C.7; V.B.1-1a, 5a; VI.A.1.
Cupressaceae	*Juniperus chinensis* L.	Cemara cina	HT-29	Subfraction	14.05	(Kwon et al. 2010)	II	China, Himalaya	LC (Farjon 2013)	II.A.53; III.C.49-49a-49b; V.C.16-16a-16b; VI.A. 3-3a
Cupressaceae	*Juniperus procera* Hochst. ex Endl.	Cedar afrika	CaCo-2	Crude	8.8	(Ganash 2019)	I.D	Kenya	LC (Farjon 2013)	I.D.44; I.G.39-39a-39b; II.A.3; III.C.130-130a; XI.A. 20-20a-20b.
Cupressaceae	*Juniperus procumbens* (Siebold ex Endl.) Miq.	Japanese juniper	N/A	N/A	N/A	(Kusari et al. 2011; Tavares and Seca 2018)	IV Contains deoxypodophyllo-toxin	W &S. Korea, S. Japan	LC (Farjon and Carter 2013)	I.G.12.

Cupressaceae	*Juniperus virginiana* L.	Red juniper, cemara angina kerucut	HepG2 Hep3B A549 MCF7 MDA-MB-231	Essential oil	11.18 ± 0.71 3.02 ± 0.03 1.79 ± 0.07 3.99 ± 0.13 4.32 ± 0.05	(Yen et al. 2012)	I.C	N. America	LC (Farjon 2013)	IV.F.10; VIII.A.7.
Cupressaceae	*Platycladus orientalis* (L.) Franco	Cemara kipas	A549 HepG2 MCF7 NIH3T3	Subfraction	9.2 11.4 10.4 >20	(Selim et al. 2020)	II Contains apigenin 8-gernayl-40-O-a-gluco pyranoside	N.W. China to Korea	NT (Farjon 2013)	V.E.21-21a; V.C.13-13c; VI.A.4-4a; VI.D.7-7a; XII.A.9; XIV.A.45-45a-45b; XIV.B.17-17a, 41.
Cupressaceae	*Thuja occidentalis* L.	White cedar	A549	Subfraction	7.6 ± 0.05	(Mukherjee et al. 2014)	II Contains flavonol	Hungaria	LC (Farjon 2013)	II.A.52; XX.B.19-19a.
Cupressaceae	*Thuja standishii* (Gord.) Carr	Cemara jepang	N/A	N/A	N/A	(Tanaka 2000)	IV *In vitro* study, Contains labande diterpenoids	Japan	NT (Carter and Farjon 2013)	V.C.11.
Cupressaceae	*Thujopsis dolabrata* (L.f.) Siebold and Zucc.	Hiba, asunaro	MKN-45	Essential oil	0.002	(Nagata et al. 2016)	I.D	Japan	LC (Carter 2013)	I.I.12; III.E.27-27a; IV.E.27.
Cyperaceae	*Cyperus alternifolius* L.	Umbrella papyrus	N/A	N/A	N/A	(Al-Gara'awi et al. 2019)	IV. Contains 2,7-Diphenyl-1,6-dioxopyridazino[4,5:2',3'] pyrrolo[4',5'-d]pyridazi and Methyl 6-oxoheptanoate,and others	W. Sumatra	LC (Lansd-own 2018)	X.A.63.
Dilleniaceae	*Dillenia philippinensis* Rolfe	Katmon	MCF7 HCT-116 HCT-15 HCT-15/Dox	Crude	11.92 ± 1.91 14.23 ± 0.65 9.13 ± 1.45 23.11 ± 0.67	(Dante et al. 2019)	I.C	Philippines	NT (Energy Develop-ment Corpo-ration 2020)	I.A.71-71a, 96; I.D.76-76a; II.B. 13-13a-13b.
Dilleniaceae	*Dillenia serrata* Thunb.	Simpur	N/A	N/A	N/A	(Nassar et al. 2012; Jalil et al. 2015)	IV Contains oetjapic acid and betulinic acid	C. Sulawesi Sulawesi W. Java	LC (IUCN and BGCI 2019)	VIII.C.66; VI.D.193-193a; VI.D. 166-166a.
Dioscoreaceae	*Dioscorea bulbifera* L.	Gadung, gembolo	CCRF-CEM MDA-MB-231 HCT-116 (p53+/+)	Crude	19.77 ± 2.22 33.17 ± 2.91 36.14 ± 2.37	(Kuete et al. 2013)	II	N/A	N/A	CL.12.

Dioscoreaceae	*Tacca chantrieri* Andre	Bunga kelelawar hitam	HCT-116 HepG2 BGC-823 NCI-H1650 A2780	Subfraction	0.81 0.79 0.92 2.15 0.75	(Ni et al. 2015)	I.A Contains taccalonolide B	Aceh	N/A	I.B.68-68a.
Dipterocarpaceae	*Shorea javanica* Koord. and Valeton	Damar	HL-60 CRL1579	Subfraction	4.7 7.5	(Ukiya et al. 2010)	II Contains Dammarenoyl-l-phenylalanine	Lampung	EN (Barstow 2018)	IX.C.52-52a, 56-56a, 61-61a.
Dipterocarpaceae	*Shorea platyclados* Slooten ex Endert	Meranti merah	N/A	N/A	N/A	(Saroyobudiyono and Aisyah 2006; Honari et al. 2019)	IV Contains resveratrol	Banten	EN (Ashton 1998)	IX.C.45-45a-45b.
Ebenaceae	*Diospyros celebica* Bakh.	Black ebony	N/A	N/A	N/A	(Mallavadhani et al. 1998)	IV Contains plumbagin	Sulawesi W. Java	VU (World Conservation Monitor-ing Centre 1998)	III.D.38, 54; III.D.41, 43.
Ebenaceae	*Diospyros discolor* Willd.	Buah bisbul, samolo, butterfruit	HT-29 J5 A549	Subfraction	0.8 12.1 10.8	(Su et al. 2015)	I.A Contains α-Cadinol	W. Java	N/A	IX.B.151-151a-151c.
Ebenaceae	*Diospyros kaki* L.f.	Kesemek, persimon	A549 HepG2 HT-29	Subfraction	6.04 13.2 11.76	(G. Chen et al. 2007)	II Contains kakisaponin A	China, Japan	LC (Zhao, Yu, BGCI and IUCN, 2019)	I.A.23-23a; III.D.37-37a, 39-39a-39b, 46, 48.
Elaeocarpaceae	*Elaeocarpus densiflorus* Knuth	N/A	N/A	N/A	N/A	(Shah et al. 2011)	IV Contains elaeocarpidin	Papua	N/A	VII.C.328-328a-328b, 457-457a-457b.
Elaeocarpaceae	*Elaeocarpus glaber* Blume	Bengkinang	MCF	Crude	297	(Subarnas et al. 2012)	III	Jambi	N/A	IX.B.33.
Elaeocarpaceae	*Elaeocarpus petiolatus* (Jacq.) Wall.	Derumun babi	MDA-MB-468 MDA-MB-231 MCF7 SKBR3 SW-480	Subfraction	N/A	(Cho, 2019)	IV Contains cucurbitacin	S. Sumatra Jambi Lampung Bengkulu	LC (Zhao, Yu, BGCI and IUCN, 2019)	VII.C.384; IX.B.65; IV.A.141-141a; IV.A.142
Elaeocarpaceae	*Elaeocarpus reticulatus* Sm.	Blueberry ash	BxPC-3	Crude	22.14	(Turner et al. 2020)	II	W. Sumatra	N/A	VII.C.353-353a.
Elaeocarpaceae	*Elaeocarpus serratus* L.	Ceylon olive	N/A	N/A	N/A	(Geetha et al. 2013)	IV Contains farnesol	W. Sumatra	N/A	VII.C.410.
Elaeocarpaceae	*Elaeocarpus sylvestris* (Lour.) Poir.	The woodland elaeocarpus	N/A	N/A	N/A	(L. Wu et al. 2019)	IV Contains brevifolin	W. Java	LC (BGCI and IUCN, 2019)	VII.C.249.

Ericaceae	*Vaccinium varingiaefolium* (Blume) Miq	Cantigi	T-47D MCF7	Crude	75.23 88.89	(Kosasih et al. 2019)	II	Malesia W.Java	N/A	VII.C.95-95a; I.G.194.
Euphorbiaceae	*Acalypha hispida* Burm.f.	Red hot cat's tail	N/A	Subfraction	N/A	(Evanjelene and Karthiga 2018)	IV Studi in silico, Contains 5-Hydroxymethylfurfural and Beta-Amyrin	New Guinea	N/A	IV.A.83-83a; VI.D.6-6a.
Euphorbiaceae	*Acalypha wilkesiana* Müll.Arg.	Akalipa, daun renda	U87-MG A549	Crude	28.03 ± 6.44 89.63 ± 2.12	(Lim et al. 2011)	II	Fiji Isl.	N/A	II.E.18-18a; VI.C.40-40a
Euphorbiaceae	*Aleurites moluccanus* (L.) Willd.	Kemiri	N/A	Subfraction	N/A	((Monks et al. 2002); Tian et al. 2019)	IV Contains coumarin scopoletin	C. Sulawesi	LC (Rivers et al., 2017)	XIX.A.33, 34.
Euphorbiaceae	*Croton argyratus* Blume	Calik angin	LU-1	Crude	1.7	(Horgen et al. 2001; Nath et al. 2013)	I.D Contains Ent-16β-17α-di-hydroxykaurane	Aceh W. Java W. Sumatra	LC (Old-field, 2020)	VIII.B.279a; VIII.A.46; VIII.B.104; VIII.B.323a.
Euphorbiaceae	*Euphorbia milii* Des Moul.	Pakis giwang, bunga euphorbia	N/A	Subfraction	N/A	(Kamurthy and Dontha 2015; Liao et al. 2018)	IV Contains taraxerol and quercetin	Madagas-car	LC (Razana-jato, 2020)	III.C.1.
Euphorbiaceae	*Euphorbia pulcherrima* Willd. ex Klotzsch	Poinsettia	Ehrlich ascites	Subfraction	3.32	(Smith-Kielland et al. 1996)	I.B Contains 9,19-cycloart-23-ene-3J1,25-diol	Mexico	LC (BGCI and IUCN, 2019)	I.D.42; I.K.77-77a, 78-78b-78c; VI.C.33-33a-33b; XI.A.6
Euphorbiaceae	*Jatropha gossypiifolia* L.	Jarak merah	HepG2-1886 WIDR HeLa AGS	Subfraction	0.99 2.79 1.60 0.78	(Asep et al. 2017)	I.A Contains jatrophone	S. E. Sulawesi	LC (BGCI) and IUCN, 2019)	VIII.C.28.
Euphorbiaceae	*Macaranga rhizinoides* (Blume) Müll.Arg.	Awu	P388	Subfraction	4.97	(Tanjung et al. 2010)	II Contains macarhizinoidins A and B	Java	N/A	VII.C.3-3a.
Euphorbiaceae	*Macaranga tanarius* (L.) Müll.Arg.	Parasol leaf tree	U87 A549	Subfraction	0.0144 0.09	(Péresse et al. 2017)	I.B Contains vedelianin	W. Sumatra	N/A	VII.C.341-341a; XIX.A.29-29a-29b, 31
Euphorbiaceae	*Macaranga triloba* (Thunb.) Müll.Arg.	Mahang damar	Hepa 1c1c7	Subfraction	N/A	(Jang et al. 2004)	IV COX-1 and COX-2 inhibitor, Contains 3,7,3',4'-tetramethylquercetin and 3,7-dimethylquercetin	W. Java	N/A	XVIII.A.26.

Equisetaceae	*Equisetum ramosissimum* Desf.	Branched Horsetail	A375 A375.S2 A2058	Crude	N/A	(P.-H. Li et al. 2016)	IV Melanoma inhibitor	N/A	LC (Lans-down, 2018)	PT.169.
Fagaceae	*Quercus acuta* Thunb.	Japanese green oak	N/A	Subfraction	N/A	(Jong et al. 2012; Huang et al. 2019)	IV Contains chlorogenic acid	Japan	LC (BGCI and IUCN, 2019)	XIII.A.36; XIII.B.55.
Gnetaceae	*Gnetum gnemon* L.	Melinjo	P388	Subfraction	25.5	(Cahyana and Ardiansah 2016)	II. Contains gnetol and (+)-lirioresinol B	N/A	LC (Baloch, 2011)	IX.A.14.
Hernandiaceae	*Hernandia nymphaeifolia* (J.Presl) Kubitzki	Kampis tiongkok	KKU-M156 HepG2	Subfraction	2.08 1.68	(Suthiwong et al. 2018)	I.B. Contains β-apopicropodo-phyllin, dehydro-podophyllotoxin, deoxypodorhizone, and (-)-maculatin	Papua	N/A	VII.C.142-142a, 143-143a.
Hydrangeaceae	*Dichroa febrifuga* Lour.	Hidrangea	MCF7 MDA-MB-231	Crude	0.08 0.08	(Jin et al. 2014)	I.B Contains halofuginone	E. Asia, Himalaya	N/A	IV.D.12-12a; XII.A. 18-18a.
Hypericaceae	*Cratoxylum formosum* (Jacq.) Benth. and Hook.f. ex Dyer	Butun	HeLa SiHa C-33A	Crude	143.18 ± 13 106.45 ± 16 130.95 ± 3.8	(Promraksa et al. 2015)	III	Bengkulu	LC (World Conser-vation Monitor-ing Centre, 1998)	IX.B.106.
Hypericaceae	*Hypericum oblongifolium* Choisy	Penandt St. John's wort	A1235	Crude	>25	(Madunić et al. 2016)	II	Austria	N/A	VI.E.116.
Hypericaceae	*Hypericum uralum* Buch.-Ham. ex D.Don	Nepal St Johns Wort	MCF7/DOX	Subfraction	1.44	(X. Li et al. 2017)	I.B Contains Uralione Q	Austria	N/A	VI.E.117.
Iridaceae	*Iris halophila* Pall.	Long leafed flag	KB HMEC	Subfraction	5.22 6.79	(Y.-Q. Wang et al. 2003)	II. Contains halophilol A	Asia, Europe	N/A	I.J.I.22.
Iridaceae	*Iris pseudacorus* L.	Yellow flag, yellow iris	N/A	Subfraction	N/A	(Kaššák, 2012)	IV Contains irisquinone A	America	LC (Kavak, 2014)	I.G.100
Juglandaceae	*Pterocarya stenoptera* DC.	Chinese wingnut	MCF7	Subfraction	N/A	(Kuo et al. 2007)	IV Contains Pterocarnin A	China Switzer-land	LC (Song, et al., 2019)	IV.E.20.IV.E.49.
Lamiaceae	*Clerodendrum trichotomum* Thunb.	Harlequin glorybower	HeLa	Subfraction	28.92	(Xu et al. 2013)	II Contains (20R,22E,24R)-Stigmasta-5,22,25-trien-3b,7b-diol	W. Java	N/A	I.D.81.
Lamiaceae	*Rotheca serrata* (L.) Steane and Mabb.	Senggugu	EACC	Crude	>250	(Raman et al. 2015)	III	Myanmar, India	N/A	IV.C.7-7a.

Lamiaceae	*Gmelina arborea* Roxb.	Jati putih	MDA-MB-231 MDA-MB-435 B16F10 CaCo-2 C6 SNB-75	Crude	0.246 0.379 0.246 0.250 0.304 0.404	(N'gaman et al. 2014)	I.A	Jambi	LC (de Kok, 2019)	XVIII.B.55-55a
Lamiaceae	*Leonurus cardiaca* L.	Motherwort	N/A	N/A	N/A	(Sadowska et al. 2017)	IV Immunomodulator and antioxidant	Europe	N/A	IV.B.2-2a.
Lamiaceae	*Mentha canadensis* L.	American wild mint	N/A	N/A	N/A	(Kapp 2015; Hossan et al. 2014)	IV. Contains Rosmarinic acid, cathecin	Europe	N/A	I.G.180.
Lamiaceae	*Mentha* x *piperita* L.	Peppermint	SPC-A1 K-562 SGC-7901	Essential oil	10.89 16.16 38.76	(Sun et al. 2014)	II	Europe	N/A	I.G.60.
Lamiaceae	*Salvia farinacea* Benth.	Salvia ungu	MCF7 NHI-H460 HeLa HepG2	Crude	59.8 ± 0.1 279.5 ± 10.1 77.8 ± 3.5 87.4 ± 5.4	(Afonso et al. 2019)	II	Mexico, Texas	N/A	I.J.II.1.
Lamiaceae	*Salvia splendens* Sellow ex Schult.	Salvia merah	N/A	N/A	N/A	(Chopra et al. 2016)	IV Contains quercetin	Brazil	N/A	I.A.66; I.G.57; IV.A.87.
Lauraceae	*Cinnamomum burmanni* (Nees and T.Nees) Blume	Holim, cassia paandg	T-47D	Crude	75	(Anjarsari et al. 2013)	II	Java	N/A	VIII.B.69-69a; VII.C. 7-7c; X.A.4-4a; XI.A.25; XII.B.12-12a, 53; XIII.A.9d-9f; XIV.A. 4-4a.
Lauraceae	*Cinnamomum camphora* (L.) J.Presl	Camphor	MCF7	Crude	71.2 ± 26.8	(Satyal et al. 2013; Bandopadhyaya et al. 2015)	II	China, Japan	N/A	I.L.11-11a; II.A.8-8a; II.B.4-4a; II.C.1-1a, 24-24b-24c; VIII.B.43-43a; XI.A. 27-27a; XIII.B.1-1a (4; XIV.A. 21-21a, 86-86a.

Lauraceae	*Cinnamomum cassia* (L). J.Presl	Casia cina	HL-60 A549	Subfraction	3.18 4.38	(Ngoc et al. 2014)	I.B Contains Coumacassia [6,7-dimethoxy-8-O-(2',3′-epoxy-3',7'-dimethyloct-6'-en-5'-one-1-yl)coumarin]	S. Sumatra W. Sumatra China, Myanmar Jambi W. Java	N/A	II.A.62-62a; II.A.59-59c; VII.C.80; IX.B.108, 109; VII.C. 149; VIII.B. 81-81a; XIX.A.12-12a
Lauraceae	*Cinnamomum iners* Reinw. ex Blume	Huru geding, kayu tuha	HCT-116	Crude	31	(Ghalib et al. 2011)	II	W. Sumatra W. Java	LC (de Kok, 2019)	VIII.B.260; XIV.A.66-66a; II.A.64; XIV.A.93.
Lauraceae	*Cinnamomum subavenium* Miq.	Sabal-sabal	A549 DU-145 LNCaP	Subfraction	2.24 ± 0.03 2.42 ± 0.01 7.01 ± 0.03	(R.-J. Lin et al. 2008)	I.B	Jambi	LC (de Kok, 2020)	XVIII.B.39.
Lauraceae	*Cinnamomum verum* J.Presl	True cinnamon	Hep3B	Crude	3.62	(Perng et al. 2016)	I.B. Contains 2-methoxycinnamaldehyde	Jambi Bengkulu	N/A	VIII.A.34-34a; VIII.B.337.
Lauraceae	*Cinnamomun zeylanicum* Blume	Kayu manis	MCF7	Crude	58	(Abd Wahab and Adzmi 2017; Kubatka et al. 2020)	II. *In vivo* study	N/A	N/A	VIII.B.337.
Lauraceae	*Cryptocarya chinensis* (Hance) Hemsl.	Cryptocarya cina	L1210 P388 A549 HCT-8	Subfraction	0.1 0.1 0.002 0.001	(T.-S. Wu et al. 2012)	I.A Contains (-)-antofine and dehydroantofine	Java, Sumatra	N/A	VI.D.50.
Lauracea	*Cryptocarya costata* Blume	N/A	P388	Subfraction	1.71	(Usman et al. 2006)	I.B. Contains 2’,4’-dihydroxy-5’,6’-dimethoxychalcone	C. Java	LC (de Kok, 2020)	VIII.B.263.
Lauracea	*Cryptocarya crassinervia* Miq.	Meandg batu	A549, MCF7, HT-29	Crude	>10	(Awang et al. 2008; Cortez et al. 2017)	II. Contains (-) Grandisin	W. Sumatra	N/A	VII.C.307.
Lauracea	*Cryptocarya konishii* Hayata	N/A	P388 HL-60 HCT-116 A549	Subfraction	0.01 0.55 1.98 4.28	(Kurniadewi et al. 2010)	I.A Contains Desmethylinfectocaryone and Cryptocaryone	Formosa	N/A	XV.B.15-15a.
Lauracea	*Cryptocarya laevigata* Blume	Red-fruited laurel	A549 MDA-MB-231 MCF7 KB KB-VIN	Subfraction	0.021 0.086 0.134 0.074 0.078	(Suzuki et al. 2018)	I.A Contains (−)-neocaryachine	China, Myanmar Lampung W. Java	LC (BGCI and IUCN, 2018)	XIV.A.30-30a; IX.A.60; XV.B.27.
Lauraceae	*Cryptocarya strictifolia* Kosterm.	N/A	N/A	N/A	N/A	(Juliawaty et al. 2000; Rasul et al. 2013)	IV Contains pinocembrin	N. Sulawesi	N/A	VIII.A.32.

Lauraceae	*Laurus nobilis* L.	Bay leaf	MCF7 T-47D	Crude	28 12.3 ± 4.0	(Abu-Dahab et al. 2014)	II	Medit Reg.	LC (Khela, and Wilson, 2018)	XIII.B.4; XV.B.25.
Lauraceae	*Lindera polyantha* Boerl.	Spicewood, spicebush, benjamin bush	N/A	Subfraction	N/A	(Suastri et al. 2005, Yoon et al. 2020)	IV Contains linderin and metil linderin	W. Java	N/A	VII.C.46-46a-46b, 381; VIII.B. 54-54a.
Lauraceae	*Litsea cubeba* (Lour.) Pers.	Kilemo, krangean	J5 A549	Crude	50 100	(Ho et al. 2010)	II	W. Java S. Sumatra W. Sumatra	N/A	VII.C.136; VIII.B.298, 302; VIII.B.256; XIX.B.18.
Lauraceae	*Litsea elliptica* Blume	N/A	A549	Crude	N/A	Goh et al. 2018	IV	W. Java Lampung	LC (de Kok, 2020)	VIII.B.121; II.A.86;
Lauraceae	*Litsea garciae* Vidal	N/A	MCF7 HT-29	Crude	66 73	(Kutoi et al. 2012)	II	C. Sulawesi S. Sumatra Aceh, W. Sumatra	LC (de Kok, 2020)	VII.B.86; VIII.B.299; VII.B.228; IX.B.158-158a; VIII. C.121-121a.
Lauraceae	*Litsea mappacea* Boerl.	Huru koneng	MCF	Crude	200	(Subarnas et al. 2012)	III	W. Java W. Sumatra	N/A	V.B.33; VII.C.51b-51c; VIII.B. 239a; VIII.B.285.
Lauraceae	*Litsea monopetala* (Roxb.) Pers.	N/A	MDA-MB-231	Crude	N/A	(Shen et al. 2014)	IV. Chemo-preventive agent	Bengkulu	N/A	II.A.87.
Lauraceae	*Persea americana* Mill.	Alpukat	MCF7	Subfraction	20.48	(Falodun et al. 2013)	II. Contains 4-hydroxy-5-methylene-3-undecyclidene-dihydrofuran-2 (3H)-one	Mexico	LC (Wegier, et al., 2017)	VIII.B.223b.
Leguminosae	*Acacia caffra* (Thunb.) Willd.	Hook thorn	HeLa A431 A375	Crude	185.00 ± 0.4 132.00 ± 0.7 >200	(Twilley et al. 2017)	III	S. Africa	N/A	VIII.A.75-75a-75b.
Leguminosae	*Acacia farnesiana* (L.) Willd.	Kembang jepun	HepG2 MDA-MB-231 A549 Ca9–22	Subfraction	1.87 ± 0.04 5.38 ± 0.05 1.70 ± 0.04 1.80 ± 0.04	(A.-S. Lin et al. 2009)	I.A Contains betulinic acid and diosmetin	Trop. America	LC (BGCI and IUCN, 2020)	VIII.B.2.

Leguminosae	*Acacia tenuifolia* (L.) Willd.	Ara a gato	M109 A2780	Subfraction	1 13.0	(Seo et al. 2002)	I.B Contains Albiziatrioside A 3-O-[â-D-xylono-pyranosyl-(1f2)-r-Larabinopyranosyl-(1f6)-2-acetamido-2-deoxy-â-D-gluco-pyranosyl]oleanolic acid, 3-O-[r-L-Arabinopyranosyl-(1f2)-r-L-arabino-pyranosyl-(1f6)-2-acetamido-2-deoxy-â-D-glucopy-ranosyl]oleanolic acid, Acacioside B and Acacioside C	Venezuela	N/A	VII.A.62-62a.
Leguminosae	*Bauhinia integrifolia* Roxb.	Flame vine bauhinia	N/A	Crude	N/A	(Allado-Ombat and Teves 2015)	IV Antiangiogenic	Malaya & Sumatra	N/A	III.C.54.
Leguminosae	*Bauhinia strychnifolia* Craib	Yhanang andg	HT-29 HeLa MCF7 KB	Subfraction	0.00217 0.06927 0.05857 0.000547	(Yuenyongsawad et al. 2013)	I.A Contains 3,5,7,3′,5′-Pentahydroxy-flavanonol-3-O-α-Lrhamnopyranoside	C. Sulawesi	N/A	VII.B.220.
Leguminosae	*Bauhinia variegata* L.	Camel's foot tree	HEp2 HBL-100	Crude	250 >300	(Rajkapoor et al. 2006)	III	Myanmar, E. India	LC (Chad-burn, 2012)	II.D.7; IV.D.7.
Leguminosae	*Caesalpinia gilliesii* (Hook.) D.Dietr.	Kembang merak	MCF7	Crude	36.5	(Emam et al. 2017)	II	Australia	N/A	I.K.59-59a.
Leguminosae	*Caesalpinia sappan* L.	Secang	4T1	Crude	13.1	(Haryanti et al. 2018)	I.D	Aceh	LC (World Conser-vation Monitor-ing Centre, 2018)	IX.B.70.
Leguminosae	*Caesalpinia spinosa* (Molina) Kuntze	Divi-divi, tara	K-562	Subfraction	44.50 ± 4.05	(Castañeda et al. 2012)	II	Pantro-pical	N/A	IV.E.30b; XIV.A.47; XIV.B.4-4a.
Leguminosae	*Dalbergia parviflora* Roxb.	Akar laka	KB MCF7 NCI-H187	Subfraction	4.18 5.37 3.47	(Songsiang et al. 2011)	I.A Contains secundiflorol H	W. Java	LC (Chad-burn, 2012)	XIX.A.16.
Leguminosae	*Derris elliptica* (Wall.) Benth.	Tuba	HCT-116 MCF7	Crude	37 ± 1.5 34 ± 0.8	(Fayad et al. 2015)	II	Lampung	N/A	IX.B.103-103a.

Leguminosae	*Enterolobium contortisiliquum* (Vell.) Morong	Earpod tree	HepG2 MCF7	Crude	15.7 12.3	(Matloub et al. 2018; Abdel-Mageed et al. 2019)	I.C Contains contortisilioside E	American Trop.	LC (BGCI and IUCN, 2019)	I.J.19; I.K. 72-72a-72b; V.C.39-39a, 62; VIII.B. 303-303a.
Leguminosae	*Erythrina abyssinica* DC.	Red-hot poker, coral tree	MCF7 MCF/TAMR MCF/ADR MDA-MB-231	Subfraction	4.61 2.42 2.19 3.01	(P. H. Nguyen et al. 2009)	I.A Contains erybreadin B	E. Africa	LC (BGCI and IUCN, 2019)	V.C.52-52a.
Leguminosae	*Erythrina crista-galli* L.	Dadap merah	MCF7	Crude	23.3 ± 1.9	(Ashmawy et al. 2016)	II	Brazil	LC (BGCI and IUCN, 2019)	V.C.50-50a-50b.
Leguminosae	*Erythrina fusca* Lour.	Cangkring	HeLa	Crude	76	(Meiyanto et al. 2007)	II	C. Java	N/A	V.C.58.
Leguminosae	*Flemingia macrophylla* (Willd.) Merr.	Hahapaan	MCF7	Subfraction	N/A	(W.-C. Lai et al. 2013)	IV Contains flemiphilippinin D and flemichin-D	Africa, Asia	N/A	VI.C.65.
Leguminosae	*Gleditsia sinensis* Lam.	Chinese honey locust	MCF7	Subfraction	19.54	(Yu et al. 2019)	II. Contains gleditsioside F	China	LC (BGCI and IUCN, 2019)	III.C.2.
Leguminosae	*Pterocarpus indicus* Willd.	Angsana, sono kembang, Papua New Guinea rosewood	N/A	N/A	N/A	(Takeuchi et al. 1986; J. Yang et al. 2020)	IV Contains cinnamaldehyde (E)	Maluku	EN (Barstow, 2018)	XIII.B.8-8a.
Leguminosae	*Sophora tetraptera* J.F.Mill.	Kowhai	N/A	N/A	N/A	(Baskar et al. 2010; McDougal et al. 2018)	IV Contains luteolin-7-O-β-glucoside and apigenin-7-O-β-glucoside	New Zealand	N/A	III.C.68.
Leguminosae	*Sophora tomentosa* L.	Ki ucing	HSC-2 HSG	Subfraction	<8 8	(Shiratak et al. 2001)	II Contains sophoraflavanone G	C. Sulawesi	N/A	VIII.B.111-111a; VIII.C.138.
Malvaceae	*Cola acuminata* (P.Beauv.) Schott and Endl.	Bissy, true kola	LNCaP DU-145	Crude	15 3.6	(Solipuram et al. 2009)	I.D	Borneo	LC (Cheek and Lawrence 2019)	VII.C.73.
Malvaceae	*Cola nitida* (Vent.) Schott and Endl.	Kola nut	HepG2	Crude	6.5	(Endrini and Marsiati 2009)	I.D	W. Africa	LC (Cheek and Lawrence2019)	VI.D.99-99a-99b.
Malvaceae	*Hibiscus rosa-sinensis* L.	Kembang sepatu	K-562	Crude	30.90 ± 1.10	(Arullapan et al. 2013)	II	Japan: Saka-rotsuji	N/A	XV.A.41-41a.

Malvaceae	*Hibiscus syriacus* L.	Kembang sepatu mawar	A549	Subfraction	2.59	(Shi et al. 2014)	I.B Contains betulin-3-caffeate	Syrian Arab Republic	N/A	VI.C.13; XI.A.28.
Melastomataceae	*Melastoma malabathricum* L.	Rhododen-dron singapura	MCF7	Crude	7.14	(Roslen et al. 2014)	I.C	India, Malay Pen.	N/A	IV.C.72; XIV.A.39, 62.
Meliaceae	*Aglaia angustifolia* (Miq.) Miq.	Pasak bumi	MCF7	Subfraction	29.87	(Hutagaol et al. 2020)	II. Contains (22E,24S)-24-propylcholest-5en-3 -acetate	Aceh	VU (Pannel, 1998)	IX.A.208.
Meliaceae	*Aglaia argentea* Blume	Bayur	KB	Subfraction	0.006	(Dumontet et al. 1996)	I.B. Contains Didesmethylrocaglamid	W. Sumatra	LC (Pannel, 1998)	III.F.76; IX.A.154.
Meliaceae	*Aglaia edulis* (Roxb.) Wall.	Mamuara disik	LU-1 LNCaP MCF7 HUVEC	Subfraction	0.001 0.01 0.02 0.1	(Kim et al. 2006)	I.A Contains aglaroxin A, aglaroxin A 1-O-acetate, and 3′-methoxyaglaroxin A 1-Oacetate	Jambi W. Java	NT (Pannel, 1998)	IX.C.39-39a.IX.A.165.
Meliaceae	*Aglaia elliptica* (C.DC.) Blume	Tanglar, lengsar	BC1 HT-1080 LU-1 Mel2 Col2 KB A431 LNCaP ZR-75 U373	Subfraction	0.9 3.0 1.0 1.0 2.0 6.0 3.0 2.0 2.0 0.8	(Lee et al. 1998)	I.A. Contains 4’-demethoxy-3’,4’-methylenedioxy-methyl rocaglate and 5 (1-O-formyl-4’-demethoxy-3’,4’-methylenedioxy-methyl rocaglate	Jambi W. Java C. Sulawesi	LC (Pannel, 1998)	VIII.B.8; III.F.75; IX.A.191; IX.A.179.
Meliaceae	*Aglaia eximia* Miq.	N/A	P388 HT-29	Subfraction	4.26 ± 0.09	(Awang et al. 2012; Harneti et al. 2014)	II Contains dammar-20,25-diene-3b,24-diol and 24(E)-cycloart-24-ene-26-ol-3-one	Aceh W. Java	N/A	IX.A.62-62a-62b, 65-65a-65b; IX.A.68-68a, 76-76a, 89.
Meliaceae	*Aglaia forbesii* King	Langsat burung	KB	Subfraction	0.006	(Dumontet et al. 1996)	I.B	W. Java	NT (Pannel, 1998)	IX.A.174.
Meliaceae	*Aglaia lawii* (Wight) C.J.Salandha	Karakil	N/A	N/A	N/A	(Mohamad et al. 1999)	IV Contains aglinin A, aglinin B, and rocaglaol	W. Sumatra Kaliman-tan	LC (Pannel, 1998)	IX.A.151; IX.B.118.
Meliaceae	*Aglaia odorata* Lour.	Pacar cina	HL-60 SMMC-7721 A549	Subfraction	4.43 5.19 5.44	(Cai et al. 2010)	II. Contains dolabellane diterpenoids	China	NT (Pannel, 1998)	III.F.53-53a-53b.
Meliaceae	*Aglaia odoratissima* Blume	Kasai	P388	Crude	N/A	(Huspa, 2009)	IV	W. Java	LC (Pannel, 1998)	IX.A.80.

Meliaceae	*Aglaia silvestris* (M.Roem) Merr.	Asam mbawang	Lu1 LNCaP MCF7	Subfraction	1.2 1.5 1.5	(Hwang et al. 2004)	I.A Contains silvestrol	W. Java	NT (Pannel, 1998)	III.F.79.
Meliaceae	*Aglaia tomentosa* Teijsm. and Binn.	Nirmula	N/A	N/A	N/A	(Mohamad et al. 1999; Thuaud et al. 2009)	IV Contains rocaglaol	N. Sumatra	LC (Pannel, 1998)	IX.A.211.
Meliaceae	*Chisocheton lasiocarpus* (Miq.) Valeton	N/A	MCF7	Subfraction	15.05	(Hidayat et al. 2018)	II Contains lasiocarpone	Papua Afrika Tropis	N/A	IX.A.173; IX.A.153-153a.
Meliaceae	*Chisocheton patens* Blume	Lamboi, latupak	MCF7	Subfraction	1.82	(Supratman et al. 2019)	I.B Contains chisopaten A and chisopaten C	C. Java	N/A	IX.A.134-134a.
Meliaceae	*Sandoricum koetjape* (Burm.f.) Merr.	Kecapi, mangga hutan	MCF7 MDA-MB-231 T-47D MCF-10A	Crude	44-48	(Aisha et al. 2009)	II	W. Java Lampung	LC (Barstow, 2018)	IX.A.212; IX.B.181; IX.B.180-180a.
Meliaceae	*Toona ciliata* M.Roem.	Cedar merah	MCF7	Crude	>200	(Nisa et al, 2014)	III	Papua	LC (Barstow, 2018)	VII.B.160.
Meliaceae	*Toona sinensis* (Juss.) M.Roem.	Surian, mahoni cina	MGC-803 PC-3 A549 MCF7 NIH3T3	Subfraction	7.09 5.65 2.59 4.15 2.48	(S. Yang et al. 2013)	I.A Contains daucosterol and quercetin	India to S. China & Malesia India Papua	LC (Barstow, 2019)	I.A.48; VIII.B.224; VII.C.362-362a; VII.B.127.
Meliaceae	*Toona sureni* (Blume) Merr.	Suren	Raji Hela	Crude	31 65	(Sari et al. 2012)	II	India to S. China & Malesia Jambi W. Java Lampung	LC (Barstow, 2018)	VIII.B.215; IX.A.11; XVIII.B.38-38a; I.I.80; VII.C.82a-82b; VIII.B. 70a-70b-70c
Menispermaceae	*Cocculus orbiculatus* (L.) DC.	Cincau cina	HepG2 Hep3B MCF7 MDA-MB-231	Subfraction	0.6 0.75 2.0 1.2	(Chang et al. 2005)	I.A Contains (+)-isotrilobine and (-)-sinococuline	W. Sumatra	N/A	VI.D.151.
Menispermaceae	*Stephania hernandifolia* (Wiild.) Walp.	Areuy geureung, tayungan	KB	N/A	N/A	(Semwal et al. 2010)	IV. Contains dl-tetrandrine, fangchinoline, d-tetrandrine, and d-isochondrodendrine	N/A	N/A	CL.73.
Moraceae	*Artocarpus altilis* (Parkinson ex F.A.Zorn)	Sukun	HeLa	Crude	40	(Ganeson et al. 2018)	II	Papua	N/A	VII.B.141.

Moraceae	*Artocarpus elasticus* Reinw. Ex Blume	Benda, bendho	A549 Hep3B HT-29 MCF7	Subfraction	1.1 3.2 3.1 2.7	(Ko et al. 2005)	I.A Contains artelastoxanthone and artonol A	Kaliman-tan W. Java Bengkulu C. Sulawesi	LC (BGCI and IUCN, 2018)	VIII.C.18, 25; VII.B.69; VI.E.188; XI.A.61
Moraceae	*Artocarpus heterophyllus* Lam.	Nangka	A549	Crude	35.27	(Patel and Patel 2011)	II	Java	N/A	VII.C.5; VIII.B.218; XI.A.8.
Moraceae	*Artocarpus lanceifolius* Roxb.	Kaleang	P388	Subfraction	1.7	(Hakim et al. 2002)	I.B. Contains Artoindonesianin P, artobiloxanthone, and cycloartobilo-xanthone	C. Sulawesi	N/A	VII.B.120
Moraceae	*Ficus benjamina* L.	Beringin	MCF	Crude	133	(Subarnas et al. 2012)	III	Trop. Asia	LC (BGCI and IUCN, 2019)	VI.C.76; XIII.A.43; XIII.B.53.
Moraceae	*Ficus deltoidea* Jack.	Tabat barito	DU-145	Crude	93.11	(Soib et al. 2015)	II	W. Java	N/A	II.C.25b, 39, 53-53a; VII. B.189-189a.
Moraceae	*Ficus drupacea* Thunb.	Ara coklat-wol, kowang	HeLa MCF7 Jurkat HT-29 T24	Subfraction	15.16 ± 1.6 16.28 ± 1.3 19.64 ± 2.6 25.58 ± 1.3 12.81 ± 1.4	(Yessoufou 2015)	II. Contains oleanolic acid, friedelin, and epilupeol acetate	W. Sumatra	LC (BGCI and IUCN, 2018)	II.C.34.
Moraceae	*Ficus fistulosa* Reinw. ex Blume	Ara, beunying	MDA-MB-468, MDA-MB-231, MCF7, MCF10A	Crude	0.015 0.191 0.362 4.259	(Al-Khdhairawi et al. 2017)	I.A Contains (-) tengechlorenine	Jambi Java, Sumatra W. Java	LC (Shao et al., 2019)	II.C.45; VII.C.266-266a; VII.C. 67-67a; VIII.B.40-40a; X.B.8.
Moraceae	*Ficus hirta* Vahl.	Gegedanganara	HeLa	Crude	>1000	(Zeng et al. 2012)	III	S. Sumatra	N/A	II.C.49a-49b-49c.
Moraceae	*Ficus religiosa* L.	Ara	A549	N/A	200	(Sankar et al. 2014)	IV. Engineered with copper oxide nanoparticle	Srilangka	N/A	I.C.35-35b.
Moraceae	*Ficus septica* Burm.f	Awar-awar	T-47D	Crude	9.3	(Nugroho et al. 2013)	I.D	Malesia W. Java W. Sumatra	LC (BGCI and IUCN, 2019)	II.C.14; II.C.41; II.C.37;
Moraceae	*Morus alba* L.	White mulberry	HL-60 CRL1579	Subfraction	0.95 5.56	(Kikuchi et al. 2010)	I.B Contains albanol A	China	N/A	XV.A.25.
Moraceae	*Morus nigra* L.	Blackberry	MCF7	Crude	575 ± 15	(Ahmed et al. 2016)	III	Temp. Asia	N/A	III.C.16.
Musaceae	*Musa acuminata* Colla	Pisang	HePG2 MCF7 EACC	Crude	58.06	(Abou-Elella and Mourad 2015; Salama et al. 2020)	II	W. Java	N/A	I.A.90-90a, 107-107a, 108.

Myricaceae	*Myrica esculenta* Buch.-Ham. ex D. Don	Bayberry, kaphal	HepG2, Hela MDA-MB-231	Crude	>1000	(Shod and Shri 2018)	III	W. Java	N/A	VIII.B.108-108a, 149.
Myricaceae	*Myrica rubra* (Lour.) Siebold and Zucc.	Yangmei, bayberry jepang	Ca-Co2	Subfraction	24.4 ± 2.4	(Ambrož et al. 2015)	II Contains α-humulene	China, Japan	N/A	III.C.63-63a; XI.A.31.
Myrtaceae	*Callistemon citrinus* (Curtis) Skeels	Sikat botol	MCF7	Crude	2.29	(Fayemi et al. 2019)	I.D	Australia	N/A	I.G.19; II.C. 6; III.C.41-41a; IV.C. 23; IV.E.4; VI.C.18; VII.C.4
Myrtaceae	*Eucalyptus globulus* Labill.	Gum biru selatan	A549	Crude	N/A	(Adnan 2019)	IV	China	LC (Fensham et al, 2019)	III.F.55-55a.
Myrtaceae	*Eucalyptus microcorys* F.Muell.	Kayu pohon	MIA-PaCa2	Crude	93.11 ± 3.43 μg/mL	(Bhuyan et al. 2018)	II	Australia	NT (Fensham et al, 2019)	III.F.33a-33b-33c; VII.A.2a-2b; XI.A.38; XIII.A.39.
Myrtaceae	*Eucalyptus robusta* Sm.	N/A	HT-29 U87 SJ-G2 SMA MCF7 MCF10A A2780 H460 A431 DU-145 BE2-C241 MIA-PaCa2	Crude	77 ± 2.0 183 ± 8.7 79 ± 5.6 100 ± 5.0 124 ± 4.5 130 ± 5.2 80 ± 3.0 77 ± 3.0 98 ± 7.8 113 ± 5.5 77 ± 4.6 129 ± 5.8	(Vuong et al. 2015)	II	New S. Wales	NT (Fensham et al, 2019)	VII.A.15, 28-28a-28b, 68; VII.B.41; XIII.A.38-38e.
Myrtaceae	*Decaspermum fruticosum* J.R.Forst. and G.Forst.	Ipis kulit	MCF	Crude	154	(Subarnas et al. 2012)	III	W. Java	N/A	VI.E.97; XI.C.28; XV.A.17.
Myrtaceae	*Eugenia uniflora* L.	Dewandaru	T-47D DU-145 JIMT-1 MIA-PaCa2	Crude	65 166.9 ± 3.9 156.6 ± 4.8 219.2 ± 7.8	(Ismiyati et al. 2012; Alade-sanmi et al. 2019)	II	Trop. America	N/A	XIV.A.55-55a.
Myrtaceae	*Melaleuca alternifolia* (Maiden and Betche) Cheel	Tea tree	HT-29	Crude	12.5	(Byahatti et al. 2018)	I.D	Australia	N/A	I.A.32a; IV.E.15; VII.C.77d; VIII.A.4.

Myrtaceae	*Psidium cattleianum* Afzel. ex Sabine	Strawberry guava	HepG2, AGS, HeLa, SNU-1, SNU-16	Subfraction	0.81 2.51 2.76 3.43 5.59	(Jun et al. 2011)	I.A Contains β-caryophyllene oxide and quercetin	Brazil	N/A	I.K.51.
Myrtaceae	*Psidium guajava* L.	Jambu biji	KBM5 SCC4 U266	Crude	22.73 ± 2.55 22.82 ± 2.36 20.97 ± 4.39	(Ashraf et al. 2016)	II	Trop. America	LC (Canteiro & Lucas,. 2019)	I.K.10.
Myrtaceae	*Rhodamnia cinerea* Jack	Ki beusi	MCF7	Crude	150	(Subarnas et al. 2012)	III	W. Java	LC (BGCI and IUCN, 2018)	VII.C.184; VIII.B.168, 331; XVIII. B.31-31a; XX.A.24.
Myrtaceae	*Syzygium cumini* (L.) Skeels	Black plum	A549	Crude	59 ± 4	(Aqil et al. 2012)	II	Java	LC (BGCI and IUCN, 2019)	VIII.B.85, 235-235a.
Myrtaceae	*Syzygium jambos* (L.) Alston	Jambu mawar, Malabar plum	HeLa A431 A375	Crude	56.20 ± 3.00 54.70 ± 0.60 198.00 ± 3.00	(Twilley et al. 2017)	II	Jambi W. Java	LC (BGCI and IUCN, 2019)	VII.B.80-80a; III.E. 54-54a; XIX.C.38.
Myrtaceae	*Syzygium polyanthum* (Wight) Walp.	Salam	4T1 MCF7	Crude	672.6 ± 59.4 126.1 ± 50.9	(Nordin et al. 2019)	III	W. Sumatra	N/A	VII.C.375.
Oleaceae	*Olea europaea* L.	Zaitun	T24 MCF7	Subfraction	4.09 2.59	(Goulas et al. 2009)	I.B Contains luteolin, oleuropein, and hydroxytyrosol	Libya	N/A	I.A.105; I.K.198.
Passifloraceae	*Passiflora suberosa* L.	Markisa, konyal	HCT-116 OVACAR-8 SF-295	Crude	N/A	(Amaral 2019)	III Growth Inhibition Index <50%	Trop. America	N/A	III.D.22.
Pentaphylacaceae	*Ternstroemia gymnanthera* (Wight and Arn.) Sprague	N/A	N/A	N/A	N/A	(Ikuta et al. 2003; Venkatesan et al. 2017)	IV	Java	N/A	IV.A.17.
Phyllanthaceae	*Glochidion eriocarpum* Champ. Ex Benth.	N/A	HL-60 HT-29 MCF7 SK-OV-3	Subfraction	4.92 6.09 26.04 14.32	(Kiem et al. 2009)	II. Contains glochieriosides A and B	Papua	N/A	VII.B.116-116a.
Phyllanthaceae	*Glochidion zeylanicum* (Gaertn.) A.Juss.	N/A	HEK293 HepG2 PC-3	Crude	66.6 2.99 12.25	(Sharma et al. 2011)	I.C	Jambi	LC (Ye, BGCI & IUCN, 2019)	IX.B.9.

Phyllanthaceae	*Phyllanthus emblica* L.	Kimalaka, malaka, kemloko	MCF7	Crude	54	(Ponraj and Kannan 2014)	II	W. Java	N/A	VII.C.144-144a-144b, 271-271a.
Pinaceae	*Pinus kesiya* Royle ex Gordon	Pinus khasi, pinus benguet, pinus tiga jarum	U937 HepG2	Crude	299.0 ± 5.2 52.0 ± 5.8	(Weerapree-yakul et al. 2016)	II	Himalaya to S. E. Asia	LC (Farjon, 2013)	III.B.3a-3b; IV.F.2; XI. A.13-13a; XIII.B.23-23a; XIV.B.34.
Pinaceae	*Pinus merkusii* Jungh. & de Vriese	Pinus, tusam	HeLa	Crude	384.10	(Proboning-rat et al. 2019	III	Aceh	VU (Farjon, 2013)	XIV.B.38-38b-38c.
Pinaceae	*Pinus parviflora* Siebold & Zucc.	Japanese White Pine	L929 ML-1	Subfraction	N/A	(Hanaoka at al., 1989)	IV	Formosa, Japan	LC 9 Farjon, 2013)	V.C.25-25a; XIII.B.3-3a.
Pinaceae	*Pinus yunnanensis* Franch.	Pinus yunnan	HL-60, SMMC-7721, A549, MCF7, SW-480	Subfraction	N/A	(Lei et al, 2011)	III Contains planchol E	S. and W. China	LC (Farjonet al., 2013)	II.B.14.
Piperaceae	*Piper aduncum* L.	Seuseureuhansi rihan	HeLa	Crude	3.91	(Wahyu et al, 2013)	I.C	Peru	LC (BGCI, IUCN and Lorea, 2019)	IV.A.27.
Plantaginaceae	*Plantago lanceolata* L.	Toucan	MCF7 AMJ13 MDA-MB CAL51	Crude	674 7200 250 23.7	(Alsaraf et al. 2019)	II	Europe	N/A	III.D.30.
Poaceae	*Coix lacryma-jobi* L.	Jali	HT-29	Crude	11.61 ± 0.95	(Manosroi et al. 2016)	I.D	Trop. Asia	N/A	I.G.35.
Poaceae	*Phyllostachys edulis* (Carriere) J.Houz.	Bambu	Hepa 6 3T3-L1	Subfraction	N/A	(Higa et al. 2012)	IV. Contains tricin dan 7-O-methyl-tricin	China	N/A	I.L.2-2a.
Poaceae	*Phyllostachys nigra* (Lodd. ex Lindl.) Munro	Bambu hitam	A375 L929 HeLa THP-1	Subfraction	26.27 15.77 27.62 24.78	(Lu et al. 2010)	II Contain friedelin	China	N/A	IV.C.31.
Podocarpaceae	*Podocarpus macrophyllus* (Thunb.) Sweet	Luhansung, kusamak	HeLa AGS MDA-MB-231 HepG2	Subfraction	0.18 0.11 0.23 0.98	(Qi et al. 2018)	I.A. Contains 2,3-dihydro-2β-hydroxypodolid, inumakilactone B , 2β-hydroxy-nagilactone F, and nagilactone F	China, Japan	LC (Farjon, 2013)	XV.A.7.

Polygonaceae	*Coccoloba uvifera* (L.) L.	N/A	LNCaP	Crude	N/A	(Fort et al. 2018)	IV	Trop. America Venezuela	LC (IUCN and BGCI, 2020)	VI.D.73-73a; VI.D. 97-97a-97b.
Primulaceae	*Ardisia crenata* Sims	Mata ayam, coral berry	HepG2	Crude	145 ± 13	(Newell et al, 2010)	III	China, E. Malesia W. Java	N/A	I.D.10-10a; I.E.5-5a-5b; I.G.154; IV. A.92
Primulaceae	*Ardisia crispa* (Thunb.) A.DC.	Christmas berry	MCF7 4T1	Crude	54.98 ± 14.10 42.26 ± 1.82	(Nordin et al. 2017; 2018)	II	Jambi S. Sumatra W. Java	N/A	VII.C.115; VII.C.158-158a
Primulaceae	*Embelia ribes* Burm.f.	Kicemang beurit	HeLa	Crude	429.99	(Arbiastutie et al. 2017, Chanchal et al. 2018)	III	S. Sumatra	N/A	VI.E.157.
Primulaceae	*Marantodes pumilum* (Blume) Kuntze	N/A	MCF7 HT-29	Crude	46.82 ± 2.41 44.62 ± 2.11	(Karimi et al, 2016)	II	W. Java	N/A	VII.C.286a, 434-434a.
Pteridaceae	*Pityrogramma calomelanos* (L.) Link	Paku perak	P388	Subfraction	1.6	(Najihah et al. 2014; Suyatno et al, 2014)	I.B Contains 2’,6’-dihydroxy-4’-methoxydihydrochalcone, kaempferol, and quercetine	N/A	N/A	PT.64.
Rhamnaceae	*Colletia paradoxa* (Spreng.) Escal.	N/A	HT-29 NCI-H460	Crude	96 93	(Monks et al. 2002)	II	S. Brazil – Uruguay	N/A	I.D.76-76a, 80a.
Rhamnaceae	*Ziziphus jujuba* Mill	Jujube	MD-MB-468	Crude	0.0005	(Hosyar et al. 2015 Iqbal et al. 2017)	I.B	W. Java	LC (IUCN, 2007)	VII.C.235.
Rhamnaceae	*Ziziphus oenopolia* (L.) Mill	Kuku heulang	N/A	N/A	N/A	(Shukla et al. 2016)	IV Contains betulinic acid	Jambi Asia, Australia W. Java	LC (Ye, J. et al, 2019)	IX.C.2; VII.C.102; VIII.B.198.
Rosaceae	*Eriobotrya japonica* (Thunb.) Lindl.	Biwa, loquat	HL-60 CRL1579	Subfraction	2.28 3.97	(Kikuchi et al. 2011)	I.B. Contains δ-oleanolic acid, ursolic acid, and betulinic acid	China, Japan	N/A	I.A.44; I.K.5; XIV. A.31-31a
Rosaceae	*Sanguisorba minor* Scop.	Salad burnet	N/A	N/A	N/A	(Cuccioloni et al. 2012)	IV. Contains quercetin-3-glucuronide	C. Asia, Europe, N. Africa	N/A	XV.B.12; XVI.A.40-40a.
Rubiaceae	*Coffea canephora* Pierre ex A. Froehner	Kopi robusta	HT-29	Subfraction	N/A	(Choi et al. 2015; Mori et al. 2016)	IV Contains kahweol, cafestol, 16-O-methylcafestol	Aceh	LC (Chadburn & Davis, 2017)	VII.C.369-369a.

Rubiaceae	*Gardenia jasminoides* J.Ellis	Kacapiring	MDA-MB-231	Subfraction	73.90	(Kim et al. 2011; Lichota and Gwoz-dzinski 2018)	II Contain genipin	E. Indies China, Japan	N/A	I.F.32-32a; III.F.46c; XI.A.3-3a; XV.A.35-35a-35b.
Rubiaceae	*Hamelia patens* Jacq.	Fire brush	MDCK HeLa SiHa	Crude	94 ± 1.7 13 ± 1.2 22 ± 1.1	(Mena-Rejon et al. 2009)	I.C	Peru	LC (Cornejo-Tenorio, et al. 2019)	XV.A.30-30b.
Rutaceae	*Citrus medica* L.	Jeruk sukade	A357	Essential oil	89.1	(Menichini et al. 2010; Chanchal et al. 2018)	II	Jambi	N/A	IX.A.5-5a.
Rutaceae	*Clausena excavata* Burm.f.	Daun si cerek	A549 HeLa	Subfraction	5.25 1.91	(Peng et al. 2013)	I.B Contains excavatine	Jambi W. Sumatra	N/A	IX.C.18-18a-18d; IX.A.125-125a, 141, 201-201a.
Rutaceae	*Murraya paniculata* (L.) Jack	Kemuning	HT-29	Subfraction	7.91	(Jiang et al. 2016; Shao et al. 2016)	II Cancerous cell adhesion inhibition	Malesia to Trop. Asia	N/A	IX.A.128-128b, 227.
Salicaceae	*Flacourtia rukam* Zoll. & Moritzi	Rukam	MCF	Crude	17	(Subarnas et al. 2012)	I.D	Java W. Java Lampung	N/A	VIII.B.12-12b; XI.C.30; VIII.B.193; XI.C.71.
Sapindaceae	*Dodonaea viscosa* (L.) Jacq.	Hopseed, cantigi, cengkeh laut	MCF7	Crude	19.4	(Shafek et al. 2015)	II	E. Nusa Tenggara	LC (BGCI and IUCN, 2019)	V.B.56.
Scrophulariaceae	*Buddleja davidii* Franch.	Summer lilac	MGC-803 Bcap-37	Subfraction	7.49 11.95	(Wu et al. 2012)	II `Contains colchicine and luteolin	China	N/A	I.A.20-20a; III.C.17.
Smilacaceae	*Smilax zeylanica* L.	Gadung cina	MCF7	Crude	15.49 ± 1.18	(Uddin et al. 2015)	II	Ceylon, Malesia C. Java W. Java	N/A	I.B.7; I.I.53; III.C.56; IX. A.158-158a; XVIII.B.32.
Solanaceae	*Capsicum annuum* L.	Paprika merah	N/A	Subfraction	N/A	(Maoka et al. 2001)	IV. Contains capsanthin, capsanthin 3'-ester, and capsanthin 3,30-diester	Trop. America	LC (Aguilar-Meléndez et al., 2020)	I.G.140.
Solanaceae	*Cestrum nocturnum* L.	Arum dalu	CNE-2Z BEL-7402 HeLa	Subfraction	17.50 18.71 19.21	(Wu et al. 2007)	II	W. Indies	LC (BGCI, IUCN and Meave, 2019)	I.D.41
Styracaceae	*Styrax benzoin* Dryand.	N/A	N/A	N/A	N/A	(Du et al. 2016)	IV	C. Java N. Sumatra	N/A	I.K.163-163b; I.K.162.

Symplocaceae	*Symplocos cochinchinensis* (Lour.) S. Moore	Kendong	U87 HepG2 MCF7	Crude	2-10 50-250 10-50	(Abida et al. 2016; Chanchal et al. 2018)	I.C	Malay Pen. W. Java W. Sumatra	N/A	VIII.B.78; XVIII.A.15a-15b; VIII.B.156; VII.C.412; VIII.B.242-242a.
Taxaceae	*Taxus sumatrana* (Miq.) de Laub.	Cemara sumatra	KB Hepa 59T/VGH	Subfraction	0.56 0.10	(Shen et al. 2002)	I.B Contains taxuspine F and wallifoliol	Sumatra Jambi W. Sumatra	N/A	III.A.35-35a-35b; II.A.36-36a; III.B.22-22a, 24; III.B.34-34a, 37
Theaceae	*Camellia sinensis* (L.) Kuntze	Teh hijau	HT-29	Crude	87	(Hajiaghaali-pour et al. 2015; Chanchal et al. 2018)	II	Japan	DD (Rivers and Wheeler 2018)	VI.D.65-65b.
Theaceae	*Schima wallichii* Choisy	Puspa	MCF7	Crude	20	(Diantini et al. 2012)	I.D	Bangka Belitung W. Sumatra W. Java	LC (Oldfield, 2018)	II.A.54-54a-54c; V.C. 12; VII.C. 373-373a; VIII.B.60-60a-60c; VIII.C.133; XI.C.5-5a; VII.C.372-372a-372b; II.A.55-55a, 61; III.C.79; V.B.16-16a-16b; VI.D. 17-17a; VII. B.21-21a;
Thymelaeceae	*Phaleria macrocarpa* (Scheff.) Boerl.	Simalakamamahkota dewa	HeLa 3T3	Subfraction	132 158	(Othman et al. 2014)	III. Contains 2,6,4'-trihydroxy-4-methoxybenzophenone and 6,4'-dihydroxy-4-methoxybenzophenone-2-O-β-D-glucopyranoside	W. Java	N/A	IX.A.162-162a-162b.

Verbenaceae	*Lantana camara* L.	Saliara, stekan	Huh7	Crude	24.8	(Bisi-Johnson et al. 2011; Arbiastutie et al. 2017; Chanchal et al. 2018)	II	Trop. America	N/A	IV.C.52; VI.B.13-13a.
Violaceae	*Viola odorata* L.	Bunga violet	MCF7	Subfraction	9.96	(Gerlach et al. 2010)	II Contains cycloviolacin O2	Asia, Europe, N. Africa	N/A	I.D.26.
Vitaceae	*Leea indica* (Burm. f.) Merr.	N/A	MCF 7 KB	Crude	138.1 ± 19.2 146.9 ± 10.4	(Hsiung and Kadir, 2011)	III	C. Java	LC (Ye, BGCI and IUCN, 2019)	IX.A.78.
Xanthorrhoeaceae	*Hemerocallis minor* Mill.	Small day lily	HeLa	Crude	N/A	(Fan et al. 2017)	IV	E. Asia	N/A	I.E.1-1a; I.G.51.
Xanthorrhoeaceae	*Hemerocallis fulva* (L.) L.	Daylily	MCF7 SF-268 HCT-116 NCI-H460	Subfraction	1.8 ± 0.2 2.4 ± 1.8 5.0 ± 0.3 3.8 ± 0.3	(Cichewizs, 2006)	I.A Contains kwanzoquinones A, B, C, and E	E. Siberia, S. Japan	N/A	I.D.8; I.E.4; I.G.49; I.K.75.
Xanthorrhoeaceae	*Aloe arborescens* Mill.	N/A	N/A	N/A	N/A	(Lissoni et al. 2009)	IV Biochemotherapy with cisplatin	N/A	LC (Martínez 2019)	POT.17.
Xanthorrhoeaceae	*Aloe ferox* Mill.	Bitter aloe	HeLa CEM	Subfraction	N/A	(Pecera et al. 2000; Chanchal et al. 2018)	II Contains aloe-emodin, emodin, aloin	S. Africa	N/A	IV.B.32.
Xanthorrhoeaceae	*Aloe vera* (L.) Burm.f.	Lidah buaya	HepG2	Crude	10.45 ± 0.31	(Shalabi et al. 2015)	II	N/A	N/A	III.14.
Zingiberaceae	*Etlingera elatior* (Jack) R.M.Sm.	Torch Ginger	CEM-SS MCF7 B16	Crude	4 6.25 15	(Habsah et al. 2005; Krajarng et al. 2017)	I.A	Aceh	LC (Poulsenan d Olander, 2019)	I.K.102.
Zingiberaceae	*Hedychium coronarium* J.Koenig	Gandasuli, white ginger	LNCaP HepG2	Subfraction	20.42 17.39	(Endringer et al. 2014)	II Contains ethoxycoronarin D and isocoronarin D	India	N/A	VI.C.6.