

Anti-Cancer and Immunostimulatory Activity of Chromones and Other Constituents from *Cassia petersiana*

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Z. Naturforsch. **62c**, 331–338 (2007); received September 11/December 14, 2006

Phytochemical investigation of *Cassia petersiana* Bolle leaves afforded four new compounds, including two chromone derivatives, 7-acetonyl-5-hydroxy-2-methylchromone (petersinone 1, **1**) and 7-(propan-2'-ol-1'-yl)-5-hydroxy-2-methylchromone (petersinone 2, **2**), two benzoic acid derivatives, 5-methyl-3-(propan-2'-on-1'-yl) benzoic acid (petersinone 3, **3**) and 5-(methoxymethyl)-3-(propan-2'-ol-1'-yl) benzoic acid (petersinone 4, **4**), and glyceryl-1-tetracosanoate (**6**), in addition to the known compound sistosterol-3- β -D-glycoside (**5**). The structures of these compounds were determined by comprehensive NMR studies, including DEPT, COSY, HMQC, HMBC, MS and IR.

Compounds **1**, **2**, **5** and **6** were tested for antioxidant, anti-cancer and immunostimulatory properties. The biological investigations indicated that compound **6**, among others, possessed the highest anti-cancer activity against hepatocellular carcinoma, immunoproliferative activity via induction of T-lymphocytes and macrophage proliferation, anti-inflammatory activity as indicated by NO inhibition, and antioxidant activity against DPPH radicals. Moreover, compound **5** was the most effective cytotoxic compound against breast carcinoma and stimulated a consistent immunoproliferative effect on lymphocytes and macrophages combined with strong NO inhibitory activity, while compound **1** was promising as immunoproliferative agent and may act as anti-inflammatory agent as a consequence of its NO inhibitory activity.

Key words: *Cassia petersiana*, Anti-Cancer, Immunostimulatory