

## TITLE

### DESIGN OF NEW DRUG MOLECULES TO BE USED IN REVERSING MULTIDRUG RESISTANCE IN CANCER CELLS

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Over the past two decades, a number of chemical entities have been investigated in the continuing quest to reverse P-glycoprotein (P-gp) mediated multidrug resistance (MDR) in cancer cells and some have undergone clinical trials, but currently none are in clinical use. Unfortunately, most of these agents suffer clinically from their intrinsic toxicity or from undesired effects on the pharmacokinetics of the accompanying anti-cancer drugs. An acridonecarboxamide (GF120918), Imidazo acridone (C1311) and trimethylene acridone derivative 1,3-bis(9-oxoacridin-10-yl)-propane (PBA) have already been shown to be among the group of compounds known to modify P-gp mediated MDR in cancer. In the recent past it has been identified that various *N*<sup>10</sup>-substituted acridones can reverse the multidrug resistance (MDR) in cancer by selectively inhibiting the multidrug resistance associated protein (MRP) and calmodulin dependent cyclic AMP phosphodiesterase. I want to envisage the various drugs being developed for treating MDR in cancer cells and especially the acridone derivatives which are being developed by the author himself.