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3,5-Dibenzoyl-1,4-dihydropyridines: Synthesis and MDR Reversal in Tumor Cells

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Fifteen 4-phenyl-3,5-dibenzoyl-1,4-dihydropyridines (**1-15**) substituted at the 4-phenyl ring were synthesized and compared to their cytotoxic activity and multidrug resistance (MDR)-reversing activity in *in vitro* assay systems. Among them, 2-CF_3 (**5**) (IC_{50}=8.7 μM), 2-Cl (**11**) (IC_{50}=7.0 μM) and 3-Cl (**12**) (IC_{50}=7.0 μM) derivatives showed the highest cytotoxic activity against human oral squamous carcinoma (HSC-2) cells. The activity of P-glycoprotein (Pgp) responce for MDR in tumor cells was reduced by some of derivatives (**3, 4, 8, 12**), verapamil and nifedipine. These data suggest that 3,5-dibenzoyl-4-(3-chlorophenyl)-1,4-dihydro-2,6-dimethylpyridine (**12**) can be recommended as a new drug candidate for MDR cancer treatment.