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### The synthesis and cytotoxic activities of imidazole [4,5-b]pyridine-2-phenyl carboxamide derivatives

Some heterocyclic compounds having amidino group are present in synthetic products with a range of pharmacological effects such as antithrombotic, anti-hypercholesterolemic, antihistaminic, antihypertensive, amebicidal, antihyperglycemic, anti-inflammatory, anticancer and antibacterial activities. The synthesis of 4-(3-benzyl-3H-imidazo[4,5-b]pyridin-2-yl)benzotrile derivatives were performed from p-cyanobenzaldehyde. These compounds were transformed to the desired amidine derivatives (Z)-N,N'-bis(4-chlorobenzyl)-4-(3-benzyl-3H-imidazo[4,5-b]pyridin-2-yl)benzimidine via the Pinner reaction followed by stirring the resulting imidates ethyl 4-(3-benzyl-3H-imidazo[4,5-b]pyridin-2-yl)benzimidate in ethanolic amines. Human breast cancer cells (MCF7) and hepatocellular carcinoma cells (HepG2) were grown in a humidified incubator supplemented with 5% CO<sub>2</sub>. Fetal bovine serum (%10) and antibiotics were added in culture media. Cytotoxic concentrations (IC<sub>50</sub> doses) of chemicals was determined by MTT (MTT [3-(4,5-dimethyl-2-thiazol-2-yl)-2,5-diphenyl-2H-tetrazolium bromide) assay for 24, 48 and 72-hour time periods. The inhibition of cell proliferation was determined by measuring the optical density of the chromogenic product at 540 nm with an ELISA reader.

### Biography

Canan Kus has completed her PhD from Ankara University in 1998 and attained full tenure as a Professor in the year 2009. Some of the highlights of her scholarship include her Post-doctoral studies as a Researcher on a new project called "uPA (Urokinase-type Plasminogen Activator) inhibitor group studies" at University of Arizona School of Pharmacy in the year 2007 in Arizona, USA. She has published more than 29 papers in reputed journals. She has received the First Winner Prize from Novartis Drug Company Pharmaceutical for Medicinal Chemistry in the year 2007.

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