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Design, Synthesis, Antioxidant and Anticancer Activity of Novel Schiff's Bases of 2-Amino Benzothiazole Derivatives

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A series of novel Schiff's bases were synthesized by single step process of condensing substituted 2-amino benzothiazole with different benzaldehydes. Atotalof 18 compounds were synthesized and characterized by FTIR, ^{1}HNMR, and Mass spectroscopy. The synthesized compounds were tested *in-vitro* for both antioxidant and antiproliferative activity. Unfortunately, none of the compound showed comparable antioxidant activity with that of ascorbic acid (0.063µg/ml,) even though the majority of the derivatives displayed moderate to significant antiproliferative activity on **HeLa**cellline. Interestingly, the compound **SP16** showed excellent activity with an IC_{50} value of **2.517µg/ml** incomparison to the reference compound Cisplatin (**17.2µg/ml**). *In-silico* docking studies were performed to identify the interactions and binding mode of the synthesized Schiff bases on the crystal structure of the complex of caspase-3 with a nicotinic acid aldehyde inhibitor with PDB ID 1RE1, 1RHM and 3DEH.

Biography:

Dr. Suvarna G Kini is an Professor and researcher in the Department of Pharm.Chemistry, Manipal College of Pharm.Sciences, MAHE, Manipal, INDIA.B.Pharm and M.Pharm for Government College of Pharmacy, Bengaluru, Karnataka, INDIA. PhD from MCOPS, MAHE, Manipal, Karnataka, INDIA. Area of Research includes Design, synthesis and docking studies of novel heterocyclic compounds and their biological screening and Development of method of analysis for new drugs. Current research interest is in developing small organic molecules for treating colorectal and cervical cancer. Authored 38 national and international publications. Received grant from Dept. of Biotechnology, INDIA under BIOCARE scheme for research on cervical cancer [BT/PR18194/BIC/101/631/2016].