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Design and synthesis of some new arylphthalazine containing derivatives as possible cytotoxic agents

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Special interest in targeted cytotoxic agents is directed towards protein kinases which play several roles in cell proliferation, and targeting these proteins has been shown to be a successful strategy towards controlling different malignancies. In an attempt to develop novel antitumor agents acting through inhibiting Vascular Endothelial Growth Factor Receptor (VEGFR), a series of new arylphthalazine derivatives has been designed and synthesized. The targeted compounds were planned and implemented into docking studies to qualitatively predict their affinity and binding modes with VEGFR-2 kinase enzyme. Docking studies were performed on the designed compounds using Accelry's Discovery Studio 2.5 software CDOCKER protocol. The structures of the synthesized compounds were confirmed by elemental analyses and spectral data (IR, ^{1}H NMR, ^{13}C NMR and Mass spectroscopy). Furthermore, biological screening in the National Cancer Institute (NCI), USA is applied to test the cytotoxic activity for the prepared compounds against full NCI 60 cell panel at a single dose (10 μM). Additionally, the target compounds are evaluated for their enzymatic inhibition of VEGFR-2 kinase.

Biography

Salwa Elmeligie has completed her PhD from Cairo University and Postdoctoral studies from Faculty of Pharmacy, Iowa University, USA. She is Head of Pharmaceutical Organic Chemistry Department, Faculty of Pharmacy, Cairo University. She is also Reviewer for Higher Education Institutions (HEIs), conducted by the National Authority of Quality Assurance and Accreditation of Education (NAQAAE), and credited trainer in Egypt. She has published more than 36 papers in reputed journals and has been serving as an Editorial Board Member of repute in addition to attending more than 20 training courses in Quality Assurance systems.

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