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Synthesis, *in vitro* antiproliferative activity and kinase inhibitory effects of new quinoline derivatives

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Synthesis of a new series of diarylamides possessing 6,7-dimethoxy(dihydroxy)quinoline scaffold is described. Their *in vitro* antiproliferative activities against NCI-58 human cancer cell lines of nine different cancer types were tested. Five target compounds showed the highest mean% inhibition values over the 58 cell line panel at 10 μM, and they were further tested in five-dose testing mode to determine their IC_{50} values. The five compounds exerted superior potencies than imatinib and gefitinib against most of the cell lines of nine different cancer types. Compound 1 g showed the highest potencies. For example, IC_{50} values against RPMI-8226 leukemia cell line, HCT 116 colon cancer cell line, and A498 renal cancer cell line were 1.57 μM, 1.56 μM, and 1.13 μM, respectively. It also showed inhibitory effect against C-RAF kinase (76.65% at 10 μM concentration).

Biography

Mohammed El-Gamal is an Assistant Professor of Medicinal Chemistry at College of Pharmacy, University of Sharjah, United Arab Emirates. He completed his PhD in Medicinal Chemistry in 2012 at Korea Institute of Science and Technology and Korea University of Science and Technology, Seoul, South Korea. He is interested in "Anticancer, antiinflammatory, antibacterial and antihypertensive drug development". He is an Editorial Board Member in 12 international reputed journals. He is also a member of Asian Council of Science Editors. He is an author of more than 45 publications published in highly-ranked international journals.

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