3,4-Dihydroquinazolin-8-yl-3-phenylurea Derivatives: Synthesis, VEGFR-2 Kinase Inhibiting Activity, and Molecular Docking

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Abstract—New 15 compounds have been synthesized targeting the highly conserved active site of VEGFR-2. Some of those have exhibited high anti-proliferation potency against tumor cells and inhibitory activity against VEGFR-2. One of the products (**6h**) has displayed the most efficient cytotoxic activity against Hela cell line *in vitro* (IC_{50} = 6.10 μM) and VEGFR-2 kinase activity (IC_{50} = 483.1 nM). Molecular docking analysis has indicated **6h** as a Type-II inhibitor of VEGFR-2 kinase. In general, the accumulated data prove 3,4-dihydroquinazolin-8-yl-3-phenylurea derivatives to be promising inhibitors of VEGFR-2 for the potential treatment of anti-angiogenesis.

Keywords: quinazoline, VEGFR-2, antitumor, molecular docking

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