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Design, synthesis and screening of novel pteridine series as aurora kinase inhibitors for cancer treatment

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Cancer is 2nd major and deadliest disease after metabolic disorder. There are approximately 1,665,540 new cases of all cancer sited in 2014 and an estimated of 585,720 people died. We carried out extensive literature search on **Aurora Kinase**, which is one of the vital target in the treatment of cancer.Hence, present research efforts were made todiscover potent molecules againstAurora kinase inhibition for cancer treatment. Based on preliminary computational study, structural importance of pteridine moiety in highest QFIT value molecule of virtual hit; it was selectedas a core moiety for further designing of molecules. 20 substituted pteridinederivatives were designed, synthesized and characterised by 1H and 13C NMR, mass andelemental analysis, while purity was checked by HPLC. All these compounds were evaluatedfor *in vitro* studies on five cancer lines; from which, compoundswere found potent, specifically on cancer cell line. Based upon results of *in vitro* studies, they wereselected further, along with 5-FU, for *in vivo* study by cancer model on mice.Compound showed favourable actions against cancer and treated tumoursdemonstrating micro molar potential of the series. This study could be explored in future to design lead molecule for the treatment of cancer.

Biography:

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