DESIGN, SYNTHESIS AND BIOLOGICAL EVALUATION OF A NEW SERIES OF POTENTIAL DPP-IV INHIBITORS

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ABSTRACT

Inhibition of dipeptidyl peptidase-IV (DPP-IV) prevents the inactivation of gastric inhibitory polypeptide (GIP) and glucagon like peptide-1 (GLP-1). This increases circulating levels of active GLP-1 and GIP and stimulates insulin secretion which results in lowering of glucose levels and improvement of the glycemic control in patients with type 2 diabetes.

In this study a series of 8 novel 2-ethoxy-6, 9-disubstituted acridines (**3**, **5**, **7a-f**) have been designed guided by a previously reported molecular modeling data and scaffold-

hopping strategy was adopted. The synthesized compounds were evaluated for their inhibitory effect on DPP-IV. The chemical structures of all compounds were confirmed by IR and NMR.

Most of the synthesized compounds were proved to have anti-DPP-IV activity ranging from 2.5 to 43.8 % at 30 µM concentration where compound **7b** displayed the best activity.

Results of this work might be helpful for further optimization to develop more potent DPP-IV inhibitors.