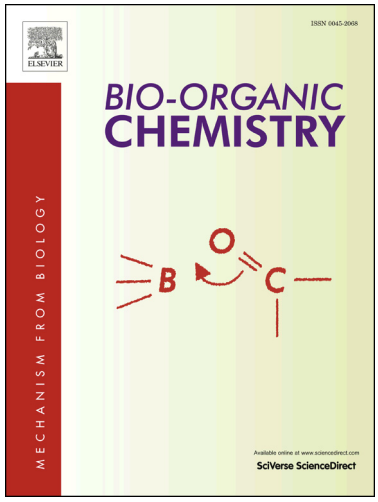

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Synthesis, Characterization and Biological Evaluation of Novel Chalcone Sulphonamide Hybrids as Potent Intestinal Alkaline Phosphatase Inhibitors

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Abstract:

Alkaline Phosphatase (AP) and ecto-5′-nucleotidase (e5′NT) belong to same family that hydrolyze the extracellular nucleotides and ensure the bioavailability of nucleotides and nucleosides at purinergic receptors. During pathophysiological conditions, the over expression of AP and e5′NT lead to an increased production of adenosine that enhance tumor proliferation, invasiveness, neoangiogenesis and disrupts the body antitumor response. As both enzymes are abundantly expressed in above mentioned conditions, therefore it is of great interest to synthesize and develop potent inhibitors of these enzymes that augment the antitumor therapy. Herein we report the synthesis and biological activity of a new series of chalcone-sulphonamide hybrids (**4a-4j**). These derivatives were then evaluated for their inhibitory potential against two members of ecto-nucleotidase family, e5′NT (human and rat) and APs isozyme (intestinal and tissue