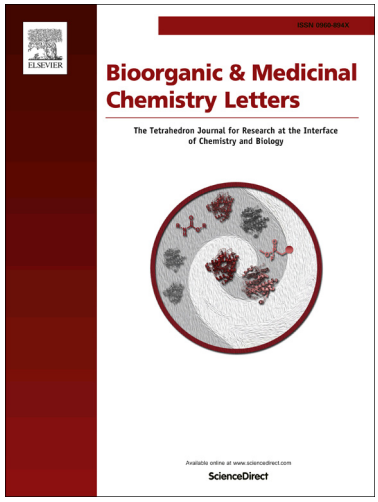

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Synthesis and carbonic anhydrase inhibitory properties of novel uracil derivatives

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ABSTRACT

Carbonic anhydrase (CA) inhibitors are precious molecules based on several therapeutic applications, including antiglaucoma activity. In the present study, inhibition of two human cytosolic carbonic anhydrase isozymes I and II with some uracil derivatives (**3-9**) were investigated. Compounds **3-9** showed K_I values in the range of 10.83 - 464 μM for hCA I and of 28.88 - 778.5 μM against hCA II, respectively. Kinetic investigations showed that similarly to classical CA inhibitors, all investigated natural compounds act as competitive inhibitors with 4-NPA as substrate. Uracil derivatives investigated here are promising agents which may be used as lead molecules in order to derivative novel carbonic anhydrase inhibitors that might be useful in medical applications.

Keywords: Carbonic anhydrase; hydroxyl; uracil; enzyme inhibitor.

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