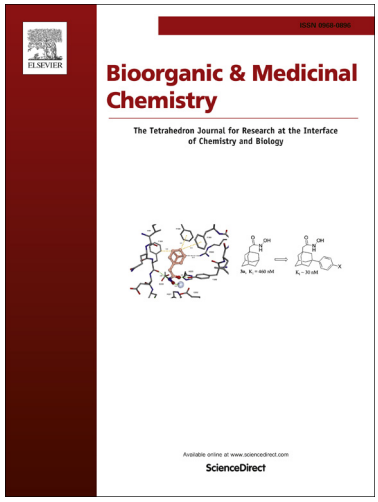

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Synthesis of Triazole Derivatives of Schiff Bases: Novel Inhibitors of Nucleotide Pyrophosphatase / Phosphodiesterase-1

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ABSTRACT

A series of Schiff base triazoles **1**-**25** was synthesized and evaluated for their nucleotide pyrophosphatase/phosphodiesterase-1 inhibitory activities. Among twenty-five compounds, three compounds **10** (IC_{50} = 132.20 ± 2.89 μM), **13** (IC_{50} = 152.83 ± 2.39 μM), and **22** (IC_{50} = 251.0 ± 6.64 μM) were identified as potent inhibitors with superior activities than the standard EDTA (IC_{50} = 277.69 ± 2.52 μM). The newly identified inhibitors can open a new avenue for the development of treatment of phosphodiesterase-I related disorders. These compounds were also evaluated for carbonic anhydrase, acetylcholinesterase and butyrylcholinesterase inhibitory potential and were found to be inactive. The compounds showed non-toxic effect towards PC3 cell lines.

Keywords

Nucleotide pyrophosphatase/phosphodiesterase-1, Schiff bases of triazoles, PC3 cell lines, Chondrocalcinosis

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