

Accepted Manuscript

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

Khalid Mohammed Khan, Salman Siddiqui, Muhammad Saleem, Muhammad Taha, Syed Muhammad Saad, Shahnaz Perveen, M. Iqbal Choudhary

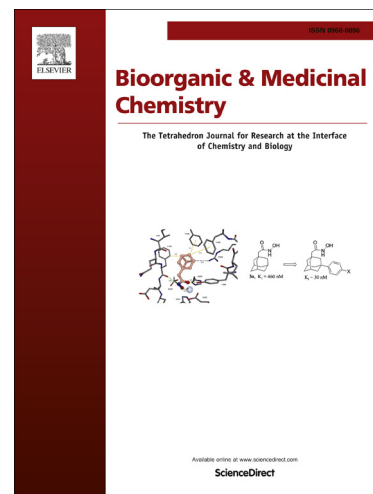
PII: S0968-0896(14)00627-0
DOI: <http://dx.doi.org/10.1016/j.bmc.2014.08.032>
Reference: BMC 11780

To appear in: *Bioorganic & Medicinal Chemistry*

Received Date: 10 July 2014
Revised Date: 22 August 2014
Accepted Date: 26 August 2014

Please cite this article as: Khan, K.M., Siddiqui, S., Saleem, M., Taha, M., Saad, S.M., Perveen, S., Iqbal Choudhary, M., Synthesis of Triazole Derivatives of Schiff Bases: Novel Inhibitors of Nucleotide Pyrophosphatase / Phosphodiesterase-1, *Bioorganic & Medicinal Chemistry* (2014), doi: <http://dx.doi.org/10.1016/j.bmc.2014.08.032>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



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

Khalid Mohammed Khan,^{*a} Salman Siddiqui,^a Muhammad Saleem,^a Muhammad Taha,^{a,b}
Syed Muhammad Saad,^a Shahnaz Perveen,^c and M. Iqbal Choudhary^{a,d}

^a*H. E. J. Research Institute of Chemistry, International Center for Chemical and Biological Sciences, University Karachi, Karachi-75270, Pakistan*

^b*Atta-ur-Rahman Institute for Natural Product Discovery, Universiti Teknologi MARA (UiTM), Puncak Alam Campus, 42300 Bandar Puncak Alam, Selangor, Malaysia*

^c*PCSIR Laboratories Complex, Karachi, Shahrah-e-Dr. Salimuzzaman Siddiqui, Karachi-75280, Pakistan*

^d*Department of Biochemistry, Faculty of Science, King Abdulaziz University, Jeddah-21412, Saudi Arabia*

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** ($IC_{50} = 132.20 \pm 2.89 \mu M$), **13** ($IC_{50} = 152.83 \pm 2.39 \mu M$), and **22** ($IC_{50} = 251.0 \pm 6.64 \mu M$) were identified as potent inhibitors with superior activities than the standard EDTA ($IC_{50} = 277.69 \pm 2.52 \mu M$). 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

^{*}Corresponding authors: hassaan2@super.net.pk; khalid.khan@iccs.edu; Tel.: 0092-21-34824910; Fax: 0092-21-34819018

Download English Version:

<https://daneshyari.com/en/article/10583375>

Download Persian Version:

<https://daneshyari.com/article/10583375>

[Daneshyari.com](https://daneshyari.com)