



- A REVIEW

POTENTIAL BIOLOGICAL ACTIVITY OF 1,4-SUBSTITUTED-1H-[1,2,3] TRIAZOLES

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ABSTRACT

The present reviews attempted to biological activities of 1,4-substituted-1H-[1,2,3] triazole derivatives. 1H-[1,2,3] triazoles constitute an important class of nitrogen heterocycles in the field of medicinal and material chemistry. Medicinally they have been shown to possess a wide range of diverse interesting pharmacological properties.

Key words: 1,4-substituted-1H-[1,2,3] triazoles, Antitumor, Antitubercular, Antimicrobial.

INTRODUCTION

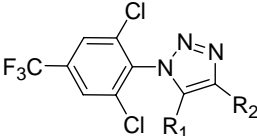
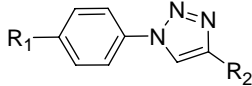
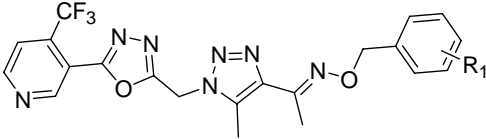
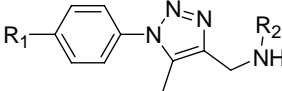
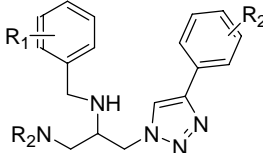
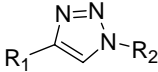
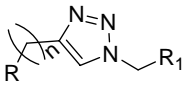
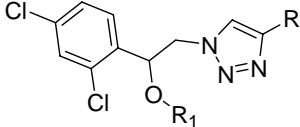
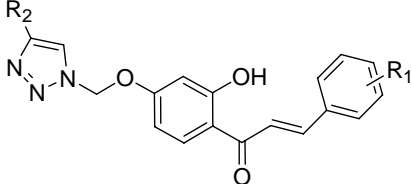
1,2,3-triazoles are an important class of heterocycles due to their wide range of applications as synthetic intermediates and pharmaceuticals. Several therapeutically interesting 1,2,3-triazoles have been reported such as anticancer, antitubercular, antifungal, antimalarial, antiproliferative, anti-protozoal, antibacterial, antimicrobial, cell-based silencing activity of siRNA, β 3-selective adrenergic receptor agonists, kinase inhibitors and other enzyme inhibitors etc. The 1,2,3-triazole moiety is present in drugs such as the β -lactam antibiotics tazobactam, cephalosporin cefatrizine and chiral 1,4-disubstituted-1,2,3-triazole derivatives etc. The recently synthesis of 1,4-substituted-1H-[1,2,3] triazoles discovered by Cu (I)-catalyzed (stepwise) transformation of Huisgen cycloaddition between organic azides and terminal alkynes which accelerates the reaction exclusively regioselective, wide substrate scope, mild reaction conditions, to 10^7 times, has placed it in a class of its own and as powerful, reliable bond forming process has enabled widespread novel application.

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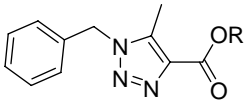
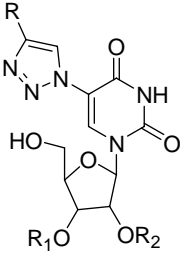
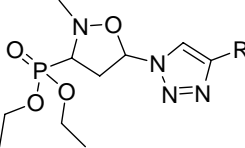
Table 1: Various pharmacological activities of 1,4-sustituted-1H-[1,2,3] triazole derivatives

S. No.	Authors	Structure	Pharmacological activity
1	Park <i>et al.</i>		Anticancer Activity ¹
2	Kamal <i>et al.</i>		Anticancer activity ²
3	Yan <i>et al.</i>		Anticancer activity ³
4	Y. Zou <i>et al.</i>		Antifungal activity ⁴
5	Lima-Neto <i>et al.</i>		Antifungal activity ⁵
6	Jakkali <i>et al.</i>		Antimicrobial activity ⁶
7	Banday <i>et al.</i>		Antimicrobial activity ⁷

Cont...

S. No.	Authors	Structure	Pharmacological activity
8	Alam <i>et al.</i>		Antimicrobial activity ⁸
9	Prasad <i>et al.</i>		Antibacterial activity ⁹
10	Dabholkar <i>et al.</i>		Antibacterial activity ¹⁰
11	Pavani A. <i>et al.</i>		Anti inflammatory activity ¹¹
12	D'hooghe <i>et al.</i>		antimalarial activity ¹²
13	Aufort <i>et al.</i>		antibiotic activity ¹³
14	C. Menendez <i>et al.</i>		Antituberculo-sis activity ¹⁴
15	Kim <i>et al.</i>		Antitubercular activity ¹⁵
16	Da Silva <i>et al.</i>		Cytotoxic activity ¹⁶

Cont...

S. No.	Authors	Structure	Pharmacological activity
17	Da Silva <i>et al.</i>		HIV-RT inhibitory activity ¹⁷
18	Abdel-Rehmana <i>et al.</i>		Antiviral activity ¹⁸
19	Piotrowska <i>et al.</i>		Antiviral and cytostatic activity ¹⁹

CONCLUSION

In conclusion, we have described the biological applications of 1,4-substituted-1*H*-[1,2,3] triazole derivatives. From the review of the various results shown by active compounds, we can find out that 1,4-substituted-1*H*-[1,2,3] triazole derivatives showed a promising results in most of the pharmacological activity.

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