Short Communication

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A study on Competitive Inhibitors of Enzymes

Priya Darshini

Bioinformatics Centre, Council of Scientific & Industrial Research-Institute of Microbial Technology, Chandigarh, India

priyadarshini898@hotmail.com

Abstract

Enzymes catalyze virtually every biochemical process in the cell. The usefulness of the most important pharmaceutical agents, antimetabolites, is based on the concept of competitive enzyme inhibition. The antimetabolites are structural analogues of normal biochemical compounds. As competitive inhibitors they compete with the naturally substrate for the active site of enzyme and block the formation of undesirable metabolic products in the body. Antibacterial, antiviral and anticancer pharmaceutical agents are among numerous examples of antimetabolites. Sulfa drags, sulfanilamide, structural analogs of amino acids (cycloserine, L-fluoroalanine), folic acid antagonists (4- amino-10-methyl folic acid=methotrexate), analogues of purine and pyrimidine (6-mercaptopurine, allopurinol, 5-fluorouracil, 5-azacytidine), inhibitors of polyamine biosynthesis (difluoromethyl ornithine, methylglyoxal-bis (guanyl hydrazone)) are the most used in modern chemotherapy The use of enzyme inhibitors, antimetabolites, beside the therapeutic significance has also provided valuable informations about enzyme mechanisms and has helped to define some metabolic pathways.

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Biography

Priya Darshini has done her PhD in cancer biology from the Department of Biotechnology, Acharya Nagarjuna University, Guntur, India, under the supervision of Prof. Z Vishnuvardhan. She has been published more than 20 research papers in reputed journals. Her research interests are Cancer Biology, Epigenetics, Molecular Biology, In-Vivo & In-Vitro, Immunology, and Nutritional Biochemistry.

