Enzyme inhibitors as the attractive targets for the treatment of various diseases

Aims & Scope:

Enzymes are extremely active biological catalysts in organisms. They involve in many pathways and speed up or regulate many reactions in the body. Enzyme inhibitors are the compounds interacting with active gorge of any enzyme to prevent or alter its regular catalytic function in permanent (irreversible) or temporary (reversible) manner and in competitive or non-competitive mode. Enzyme inhibitors are also of value to treat many diseases at the moment, most of which are in clinical use and, therefore, they have become a very attractive target for drug development and discovery. For instance, glucocerebrosidase inhibitors for Gaucher disease, cholinesterase inhibitors for Alzheimer’s disease and myasthenia gravis, angiotensin-converting enzyme (ACE) inhibitors for the treatment of hypertension, (3-hydroxy-3-methyl-glutaryl-CoA (HMG-CoA) reductase inhibitors for hypercholesteremia, protease inhibitors for AIDS treatment, monoamine oxidase-A (MAO-A) for depression, tyrosinase inhibitors for hyperpigmentation, a-glucosidase inhibitors for diabetes mellitus, etc. can be exemplified to underline their role in the treatment of a wide range of diseases.

Consequently, designing and discovering novel enzyme inhibitors are a prevalent research approach and an immense number of studies are being published each year. In this special issue of Current Medicinal Chemistry, it is proposed to have up to 10 review articles from eminent scientists highlighting important enzyme inhibitors from natural or synthetic sources.

Keywords: Enzymes, biological catalysts, Enzyme inhibitors, catalytic function, Alzheimer’s disease and myasthenia gravis.

Sub topics:

1. MAO-A inhibition by natural products: Towards the treatment of dysfunctional behavior.
2. Lactate dehydrogenase inhibition
3. Perspectives and new aspects of metalloproteinases’ inhibitors

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