Quercetin and related chromenone derivatives as monoamine oxidase inhibitors: Targeting neurological and mental disorders

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Monoamine oxidase inhibitions are considered as important targets for the treatment of depression, anxiety, and neurodegenerative disorders, including Alzheimer?s and Parkinson?s diseases. This has encouraged many medicinal chemistry research groups for the development of most promising selective monoamine oxidase (MAO) inhibitors. A large number of plant isolates also reported for significant MAO inhibition potential in recent years. Differently substituted flavonoids have been prepared and investigated as MAO-A and MAO-B inhibitors. Flavonoid scaffold showed notable antidepressant and neuroprotective properties as revealed by various and established preclinical trials. The current review made an attempt to summarizing and critically evaluating the new findings on the quercetin and related flavonoid derivatives functions as potent MAO isoform inhibitors.

Flavonoids

In-silico design

Mental disorders

Monoamine oxidase

Monoamine oxidase inhibitors

Neurodegenerative disorder

Quercetin

flavonoid

monoamine oxidase inhibitor

quercetin

animal

chemical phenomena

chemistry

human

mental disease

metabolism

molecular model

neurologic disease

structure activity relation

Animals

Chemical Phenomena

Flavonoids

Humans

Mental Disorders

Models, Molecular

Monoamine Oxidase Inhibitors

Nervous System Diseases

Quercetin

Structure-Activity Relationship