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8-Hydroxyquinolines in medicinal chemistry: a structural perspective

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Abstract

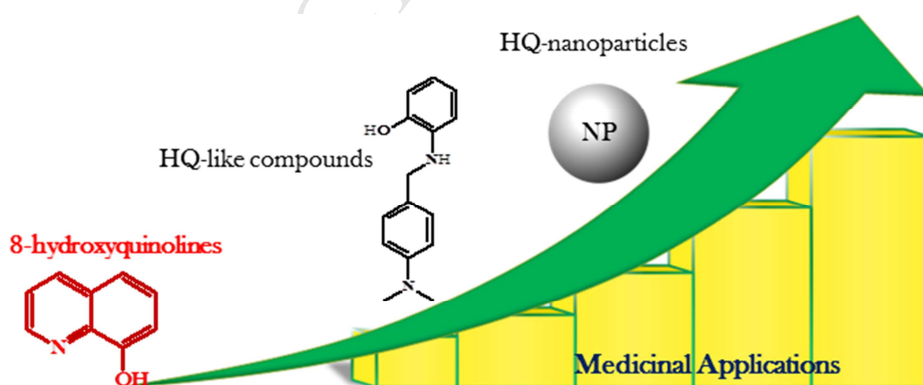
8-hydroxyquinolines are heterocyclic compounds characterized by a moderate metal-binding affinity. The interest in 8-hydroxyquinolines has grown exponentially in the last two decades as they are privileged structures for the design of new drug candidates that exert a host of biological effects on various targets.

The study of biological activities such as neuroprotection, anticancer, antibacterial, antifungal activity has been further promoted by the synthetic versatility of 8-hydroxyquinoline, which allows the generation of a large number of derivatives. This includes numerous multifunctional analogues having the metal-binding motif of 8-hydroxyquinoline. In this review, we have summarized 8-hydroxyquinolines, 8-hydroxyquinoline-like compounds, 8-hydroxyquinoline-loaded nanoparticle systems with respect to their biological activities, interaction with metal ions and mechanisms of action.

Keywords

8-hydroxyquinoline; nanoparticle; PBT2; nitroxoline; metal complexes; Alzheimer; glycoconjugate; anticancer

Graphical Abstract



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