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Berberine as multi-targets therapeutic weapon against Alzheimer's disease

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It is well known that berberine has several biological activities like antioxidants, anti-inflammatory, antidiabetic, antilipidemic and antitumor properties. Unfortunately, this compound does not use as drug because it has low bioavailability moreover, the plant that contains this compound is not cultivated in Egypt. The aim of this study was to understand the function of berberine as a treatment for Alzheimer. To achieve this aim, the anti-Alzheimer/ anticancer effect of this compound at *in silico*, *in vitro* and *in vivo* level through targeting several pathways implicated in disorder incidence and progression was investigated. Moreover, two approaches in medical biotechnology field were used to resolve berberine problems which are Biocatalysis and nano-formulations. In conclusion, berberine loaded nanoparticle is good candidate to treat Alzheimer through targeting several pathways with no-toxic effect and high therapeutic index.

Biography

Doaa A Ghareeb is the professor of clinical biochemistry at Faculty of Science, Alexandria University. She is the Acting Dean of Pharmaceutical and Fermentation Industries Development Centre, City of Scientific Research and Technological Applications and the Manger of Biological Screening and Preclinical Trial Lab, Department of Biochemistry, Faculty of Science, Alexandria University. She is a member of National committee of Women in Science, Academy of Scientific Research and Technology, Egypt. She is the co-founder and director of Drug Preclinical Studies Center of Excellency. She is among the founding members of Egyptian Association for Cancer Research. Her h-index is 14 and published about 66 articles in peer-reviewed journals and attended more than 80 national and international workshops and conferences in different medical biotechnology field. She supervised more than 60 Master and PhD students from Egypt, and other countries and has been serving as an editorial board member of reputed Journals.

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