

Evaluation of *in vitro* antioxidant activity study of 2-thiohydantoin

Uma S^{1*}, Devika P T²

¹Department of Biochemistry, New Prince Shri Bhavani Arts and Science College, Medavakkam, Chennai-100.

²PG & Research Department of Biochemistry, Mohamed Sathak College of Arts & Science, Chennai-119.

*Corresponding author e.mail: abiramisivalingam@yahoo.co.in

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ABSTRACT

The thiohydantoin nucleus is a 5-membered ring system containing a reactive cyclic thiourea core. This heterocycle is used for the synthesis of drugs with antidiabetic, antimicrobial and anticancer agents. The aim of the study was to evaluate the antioxidant activity of the synthetic compound, 2-thiohydantoin. 2-thiohydantoin moiety also possesses several pharmacological properties including anticonvulsant, antiinflammatory, antiulcer and antiarrhythmic properties. The present study gives information regarding four different *in vitro* methods that were used to measure the antioxidant activity of the synthetic compound, 2-thiohydantoin. *In vitro* studies on the effect of 2-thiohydantoin on scavenging 2,2-diphenyl-1-picrylhydrazyl radical(DPPH^{*}), 2,2-azinobis-(3-ethylbenzothiazoline-6-sulphonate) radical cation (ABTS^{*}), hydroxyl radical (OH^{*}) and superoxide anion radical (O₂^{•-}) confirmed the free radical scavenging and antioxidant activity of 2-thiohydantoin. Thus the observed effects are due to the free radical scavenging and antioxidant potential of 2-thiohydantoin.