

**Assessment of inhibitory activity of barbiturates bearing 1,2,3-triazole derivatives on tyrosinase and study of kinetic of inhibition and cellular and molecular docking.**

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Tyrosinase is a multifunctional, glycosylated, and copper-containing oxidase, which catalyzes the first two steps in mammalian melanogenesis and is responsible for enzymatic browning reactions in damaged fruits during post-harvest handling and processing. Neither hyperpigmentation in human skin nor enzymatic browning in fruits are desirable. These phenomena have encouraged researchers to seek new potent tyrosinase inhibitors for use in foods and cosmetics. For this purpose, the inhibitory effect of 14 barbiturate-based compounds on tyrosinase enzyme was investigated tyrosinase test by comparing with kojic acid .The results of these tests show that . substances B16 at  $Ic_{50}=24.6833 \mu M$  exhibited the highest inhibitory activity of fungal tyrosinase.

The results of these tests indicate that the kinetic enzyme is a mixed type. .The results of molecular docking are consistent with the data obtained from tyrosinase inhibition

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