ANTIOXIDANT ACTIVITY OF NEW PYRAZOLINE DERIVATIVES IN VITRO

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Reactive oxygen species are generated routinely in living organisms in normal metabolic processes and at higher amounts during various pathogenic conditions. They can induce neuronal damage and are involved in central nervous system disorders as Parkinson's and Alzheimer's disease. The present work evaluated antioxidant activity of seven newly substituted trifluoromethyl pyrazoline derivatives (5-trifluoromethyl-4,5-dihydro-1*H*-pyrazoles). Antioxidant activity was evaluated spectrophotometrically by the ferric reducing antioxidant power (FRAP) and by the inhibition of glutathione (GSH) oxidation in absence or presence of H_2O_2. Compound evaluated did not prevent the oxidation of glutathione in the presence or absence of H_2O_2, with exception of the compound 5 (147µM) that was efficient in the prevention of GSH oxidation in the presence of H_2O_2 (3.96 vs. 41.16% GSH degradation in the absence of the compound). Compounds 2 and 7 (15 µM) had the highest FRAP (0,92±0,13 and 0,78±0,13 trolox equivalent, respectively). These results suggest that compound 5 could remove H_2O_2, while compounds 2 e 7 are reducing agents.

Keywords: FRAP, gluthatione, H_2O_2.

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