

Synthesis, characterization and in vitro antioxidant activity of (1e, 4e)-1,5- bis(4- hydroxyl-3-methoxyphenyl) penta- 1,4-dien-3-one

ABSTRACT

The aim of this study was to synthesis and evaluation of in vitro antioxidant activity of (1E, 4E)-1,5- bis(4- hydroxyl-3-methoxyphenyl)penta- 1,4-dien-3-one (divanillic acetone DVA) in nitrite-induced hemoglobin (Hb) oxidation. DVA was prepared by aldol condensation of vanillic aldehyde and acetone. Two concentrations of DVA were added at time 0 and 5 minutes intervals of Hb oxidation in erythrocytes lysate, and formation of methemoglobin (MetHb) was monitored spectrophotometrically. The results showed that DVA successfully attenuates Hb oxidation after addition of sodium nitrite; this protective effect was found to be not related to the catalytic stage of Hb oxidation, though such effect was reported to be more prominent when DVA was administered before nitrite. In conclusion, DVA can effectively, in concentration-dependent pattern, attenuate sodium nitrite-induced Hb oxidation.