

Scavenging of the one-electron reduction product from nisoldipine with relevant thiols: Electrochemical and EPR spectroscopic evidences

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Purpose. To determine the formation of the one-electron reduction product from nisoldipine and its reactivity with relevant thiols in mixed medium. **Methods.** Cyclic voltammetry (CV) and electron paramagnetic resonance (EPR) techniques were used to determine the one-electron reduction product corresponding to the nitro radical anion. CV was employed to assess both the rate constants corresponding to the decay of the radicals and its interaction with relevant thiols. **Results.** The nisoldipine radical anion follows second order kinetics, with an association rate constant of $283 \pm 16 \text{ l mol}^{-1} \text{ sec}^{-1}$. Nitro radical anion from nisoldipine significantly reacted with thiol compounds. This reactivity was significantly higher than the natural decay of the radical in mixed medium. EPR spectra recorded in situ using DMF/ 0.1 N NaOH (pH 13) confirmed the formation of the nitro radical anion, giving a well-resolved spectra in 35 lines using 0.1 G modulation. **Conclusions.** Electrochemical and EPR data in