ELECTROCHEMICAL OXIDATION OF PIRIBEDIL AND ITS DETERMINATION IN TABLETS AND HUMAN SERUM

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Piribedil is a non ergot dopamine agonist and has been tried in the treatment of Parkinsonism and in depression. In some countries it is used in the treatment of circulatory disorders. Piribedil is an alkoxybenzyl-4-(2-pyrimidinyl) piperazine derivatives.

There is no written information concerning electrochemical studies, oxidation mechanism and analytical assay from pharmaceuticals or biological media using by voltammetric techniques.

In this work, an electroanalytical study of the oxidation of piribedil at the glassy carbon electrode using different voltammetric techniques was carried out. The influence of pH, scan rate, nature of the buffer, concentration were carefully examined by linear sweep, cyclic, differential pulse (DPV) and square wave (SWV) voltammetry. The voltammetric behaviour of piribedil was examined with varying pH over a wide range of values from acidic (0.1 M H₂SO₄) to alkaline (pH 11.04) in different buffer systems. DPV and SWV methods for the sensitive measurements of piribedil were described. For analytical purposes, a very well resolved diffusion controlled voltammetric peak was obtained at pH 1.8 (0.1 M H₂SO₄) and pH 5.7 (acetate buffer). The linear response was obtained in the ranges of 2×10⁻⁶ - 1×10⁻³ M in 0.1 M H₂SO₄ and 2×10⁻³ - 6×10⁻⁴ M in pH 5.7 acetate buffer for DPV and SWV techniques. Both procedures were applied to the determination of piribedil from tablets in both media and human serum samples in pH 5.7 acetate buffer. Excipients and endogencus substances did not interfere in the determination.