

# Electrochemical determination of lacidipine

Squella, Juan A.

Iribarren, Anny E.

Sturm, Juan C.

Núñez-Vergara, Luis J.

Lacidipine is an antihypertensive drug that is oxidizable at the glassy carbon electrode. The voltammetric oxidation of lacidipine in aqueous-alcoholic solutions (70 + 30) produces a well-defined voltammetric peak when subjected to a differential pulse voltammetric experiment. This peak is due to oxidation of the dihydropyridine ring to a pyridine derivative. This voltammetric response result is irreversible, pH dependent, and diffusion controlled. The best resolution for the peak was obtained at pH 6 in Britton-Robinson buffer-ethanol (70 + 30). The peak potential at pH 6 was 800 mV against an Ag-AgCl reference electrode. A linear relationship between peak current and lacidipine concentration was obtained. For analytical purposes, a calibration curve for lacidipine that covered concentrations between  $5 \times 10^{-6}$  and  $2 \times 10^{-4}$ M was used. Detection and quantitation limits were  $3.52 \times 10^{-6}$  and  $3.78 \times 10^{-6}$ M, respectively. The repeatability of the measurement was 2%. On the basis of the voltam