

# Determination of oxidized and reduced glutathione, by capillary zone electrophoresis, in Brassica juncea plants treated with copper and cadmium

Mendoza, Jorge

Soto, Paula

Ahumada, Inés

Garrido, Tatiana

A rapid method of capillary zone electrophoresis is described to determine the oxidized (GSSG) and reduced (GSH) form of glutathione in plant tissue. In order to separate both analytes in a fused-silica capillary, the pH and composition of the electrolyte solution were optimized. The electrolyte composition was 100 mmol/L borate, 25 mmol/L Tris, and 0.2% w/v metaphosphoric acid (MPA), pH 8.2. Some instrumental conditions used to run the samples were hydrostatic injection for 30 s, 30 kV applied voltage, and UV detection (185 nm) at 25°C. Linearity and useful range obtained for the calibration curves were optimum, with correlation coefficients about 0.999 in the 0-120  $\mu$ mol/L range. The migration time was highly reproducible, less than 5 min being afforded to run a sample. Electrolyte buffer and samples required a careful pH control for optimal separation of both analytes. This aspect constitutes a critical analytical step when acids are used in the procedure for sample preparation. Simu