

# Optimization of phenolic compounds recovery and in vitro antioxidant activity of Algerian eggplant (*Solanum melongena* L.)

Authors

Lynda Arkoub-Djermoune, F Benmeziiane, K Madani, L Boulekbache-Makhlouf

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Description

The optimum conditions for extraction of total phenolic contents (TPC) and maintaining the highest antioxidant activity from eggplant were determined. Extraction experiments were carried out by investigating the effects of the solvent nature (acetone, ethanol, methanol, or water), solvent concentration (30-90%), extraction temperature (30-100°C), extraction time (30-120 min), solid to solvent ratio (1/25-1/100 g/mL), and number of extractions (1, 2 and 3) on the recovery of phenolic compounds and antioxidant activity of the extracts. The TPC was assessed to determine the polyphenolic component while free radical scavenging activity (FRSA) and ferric-reducing power (FRP) were used to evaluate the antioxidant activity of eggplant extracts. All extraction parameters had significant effects ( $p < 0.05$ ) on the TPC extraction and the antioxidant activities. The best conditions were obtained using three extraction steps with aqueous acetone 70% (v/v) at 25°C for 60 min ...