

## SUPERCritical FLUID EXTRACTION OF ANDES BERRY (*Rubus glaucus* Benth): COMPOSITION AND ANTIOXIDANT ACTIVITY

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*Rubus glaucus* Benth, commonly known as “mora de Castilla”, is indigenous to tropical America [1]. In Colombia, its production increased more than three times in the last 10 years [2]. Its fruit has been recognized for the protecting effect associated with its polyphenols content [3]. The aim of this work is obtain the supercritical fluid (CO<sub>2</sub>) “mora de Castilla” fruit extract, to characterize it and evaluate its antioxidant capacity in order to assess its potential use as an ingredient of cosmetic products. The fruits were lyophilized with the aim of improving the CO<sub>2</sub> solubility. The extracts were obtained using supercritical CO<sub>2</sub> with and without ethanol as a co-solvent. The experiments were performed in a unit with a 2-L extraction chamber and a 2-piston sapphire pump (Thar SFE- 2000). Pressure and CO<sub>2</sub> flow rate exhibited a significant effect on the extraction yield. The chemical composition of the extracts was determined using GC-MS, HS-SPME and HPLC-DAD.  $\alpha$ - and  $\gamma$ -Tocopherols, hydroxymethylfurfural, ethyl benzoate and butadienol were detected in the volatile fraction of extracts obtained without co-solvent. The HPLC profiles of the extracts were compared with that of a mixture of 24 flavonoid antioxidants, phenolic acids, xanthine and catechin. None of these were present in the extracts, or may exist as glycosides, so that prior extract hydrolysis is necessary. The antioxidant activity was determined by the ORAC method and by inhibition of lipid peroxidation induced by UV radiation. The antioxidant activity determined by the ORAC method was 1.80  $\mu$ mol Trolox®/mg extract.

**Keywords:** *Rubus glaucus*, antioxidant, berry, ORAC, HS-SPME.

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