

Extraction of iridoids from Blue Honeysuckle berries

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The Blue Honeysuckle (*Lonicera caerulea L.*) berry, a presumably new superfood, was just recently authorized as Novel Food by the European Union. The fruits are rich in antioxidants, have high amounts of secondary metabolites, like phenolic acids, flavonoids or anthocyanins and are suggested to have many health-benefitting properties [1]. In addition to these compounds, iridoids are reported to be present in the berries of Haskap [2], which adds a characteristic slight bitter note to the taste of the berries and serve for the plant's protection against herbivores. Additionally, iridoids are also considered to have great pharmaceutical value, because of their antiseptic, sedative and hypotensive effects [3]. Therefore, in this research study, different extraction methods for iridoids from Blue Honeysuckle berries were tested including super critical CO₂ combined with EtOH as a co-solvent for environmentally friendly extraction conditions. Furthermore, multi-step fractionated sCO₂ extractions with increasing amount of EtOH (from 0-30%) are considered to selectively extract iridoids from occurring side products.

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[2] Kucharska, A. Z.; Fecka, I., Identification of Iridoids in Edible Honeysuckle Berries (*Lonicera caerulea L.* var. *kamtschatica* Sevast.) by UPLC-ESI-qTOF-MS/MS. *Molecules* **2016**, 21, (9).

[3] Dinda, B.; Debnath, S.; Harigaya, Y., Naturally occurring secoiridoids and bioactivity of naturally occurring iridoids and secoiridoids. A review, part 2. *Chemical and pharmaceutical bulletin* **2007**, 55, (5), 689-728.