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INHIBITION OF CARBONIC ANHYDRASE I AND II WITH TOTAL ANTHOCYANINS EXTRACTED FROM SWEET CHERRY CULTIVARS

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Abstract

Total anthocyanins were extracted from six sweet cherry cultivars grown in Sakarya, Turkey. In vitro inhibition effects of the extracted total anthocyanins on purified carbonic anhydrase I and II were investigated using CO₂ as a substrate. All the extracted total anthocyanins inhibited the activity of the human carbonic anhydrase (hCA) I and II enzymes. Among all the cultivars, ‘Karakiraz’ was found to be the most active on both hCA I (IC₅₀ = 30.59 µg/mL) and hCA II activity (IC₅₀ = 44.52 µg/mL). Additionally, all the cultivars have higher inhibitory activity on hCA I than hCA II.

Key words: carbonic anhydrase, extraction, sweet cherry cultivars, total anthocyanins

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