

HPLC ANALYSIS IN APRICOT (*Prunus armeniaca*),
SWEET ALMOND (*Prunus dulcis*), AND
HAZELNUT (*Corylus cornuta*)

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2011

ABSTRACT

Apricot (*Prunus armeniaca*), sweet almond (*Prunus dulcis*), and hazelnut (*Corylus cornuta*) are nuts that easily found in Asian region. The aims of this study were to determine DPPH free radical scavenging activity, total phenolic content (TPC), and total flavonoid content (TFC) of apricot, sweet almond, and hazelnut extracts, and to identify potent phenolic components that present in apricot, sweet almond, and hazelnut extracts by HPLC-DAD. Hazelnut (207.60 mg CE/g dry weight), apricot (192.38 mg CE/g dry weight), and sweet almond (51.67 mg CE/g dry weight) extracts were detected to contain catechin by HPLC analysis while apigenin was only found in hazelnut extract (1.90 mg AE/g dry weight). Apricot extract (21.58 ± 0.52 mg CE/g dry weight) was detected to have high amount of phenolics and followed by hazelnut (19.24 ± 0.62 mg CE/g dry weight) and sweet almond extracts (1.55 ± 0.10 mg CE/g dry weight). In total flavonoid content measurement, hazelnut extract (2.06 ± 0.13 mg CE/g dry weight) has the highest amount of flavonoid and followed by apricot (1.26 ± 0.08 mg CE/g dry weight) and sweet almond extracts (0.65 ± 0.07 mg CE/g dry weight). Apricot ($95.31 \pm 0.94\%$) and hazelnut ($93.58 \pm 0.66\%$) extracts were found to possess high free radical scavenging activity and no significant difference was found between them. Sweet almond ($15.12 \pm 4.38\%$) was none the less has the weakest free radical scavenging ability. Apricot and hazelnut were said to be good antioxidant and has protective effect in human health whereas sweet almond has shown low content of phenolics and weak free radical scavenging ability. Further studies can be aimed at pH and temperature control in sample extraction, and adjustment in storage condition of sample. More standards can be tested on HPLC analysis to identify unknown peaks in sample chromatogram.

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