

Antiglycation activity, antioxidant activity, total phenol and flavonoid contents of the aqueous extracts of raw and ripe leaves of *Artocarpus heterophyllus*

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There is much interest in plant based medicine with anti-glycation properties. Formation of advanced glycation end products (AGEs) is a major cause of serious chronic diabetic complications. The objective of this study was to analyze protein glycation inhibitory potential on fructose mediated non enzymatic glycation by the aqueous leaf extract of *Artocarpus heterophyllus* (ALEAH) according to a previously published method. 2,2-diphenyl-1-picrylhydrazyl radical (DPPH) scavenging activity, total phenolic and flavonoid contents were also determined. The ALEAH (ripe and raw) was prepared separately according to the preparation of a “Kasaya” in Ayurvedic medicine. The freeze dried powder was used for the investigations. The ALEAH (ripe) at 75, 100, 125 $\mu\text{g ml}^{-1}$ inhibited AGE formation by 52%, 63%, 72% respectively and ALEAH (raw) at same concentrations inhibited 36%, 57%, 63% respectively after two weeks of incubation in the BSA-Fructose assay. DPPH radical scavenging activity at 5, 10, 50, 100, 200 $\mu\text{g ml}^{-1}$ of ALEAH (ripe) was 7%, 13%, 42%, 63%, 66% respectively while the ALEAH (raw) at 5, 10, 50, 100, 200 $\mu\text{g ml}^{-1}$ inhibited 4%, 15%, 27%, 46%, 54% respectively. IC₅₀ value of DPPH assay was 0.11 and 0.16 mg ml^{-1} for ALEAH ripe and raw respectively. Total phenolic content of ALEAH was 53 (ripe) and 38 (raw) mg GAE g^{-1} . Total flavonoid content of ALEAH was 32 (ripe) and 23 (raw) mg QE g^{-1} (QE = Quercetin equivalents, GAE = Gallic acid equivalents). It is significant that ripe (fallen leaves) contained higher activity in every instance than the raw leaves and can be used to combat diabetic complications.

Keywords: Antiglycation activity, *Artocarpus heterophyllus*, radical scavenging activity

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