

OP 19 - *In vitro* screening of antioxidant capacity, inhibition of lipid peroxidation, inhibition of protein oxidation, and cytotoxicity of different extracts of *Bauhinia purpurea* on human bone marrow cells

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Introduction: *Bauhinia purpurea* is a medicinal herb of the fabaceae family and is recognized as a potent source of biologically active compounds with anticancer properties.

Methods: The bark of the plant was used to prepare aqueous extracts. Hot Aqueous (HA) and Cold Aqueous (CA) were prepared in order to screen antioxidant capacity (DPPH, phosphomolybdenum), inhibition of protein oxidation, and inhibition of lipid peroxidation and cytotoxicity effects (MTT assay) against mononuclear cells obtained from human bone marrow. Human bone marrow was taken from non-multiple myeloma patient. Total Phenolic Content (TPC) and Total Flavonoid Content (TFC) of the extracts were determined using the Folin-Ciocalteu reagent and aluminum chloride (AlCl₃) method respectively.

Results: TPC of HA and CA were 100.25±0.03 mg GA/g (Gallic Acid/g) and 193.24±0.01 mg GA/g respectively. TPC of BHT (Butylated hydroxytoluene, positive control) was 256.12±1.21 mg GA/g. Highest TFC was recorded in CA (274.2±0.01 mg EGCG/g (epigallocatechin gallate)/g). Total antioxidant property of the CA and HA was 98.1±0.01mg GA/g and 51.3±0.01 mg GA/g at 1000 mg/L. Highest DPPH radical scavenging properties recorded in CA (IC₅₀, 5.13±0.01 µg/mL) whereas the Gallic acid and BHT was IC₅₀ 4.5±2.31 µg/mL and 46.5±1.13 µg/mL. Highest inhibition of protein oxidation was obtained for CA (IC₅₀ 46.2±0.01 ug.ml) whereas BHT was 40.2±0.01 µg/mL. The highest inhibition of lipid peroxidation was recorded in CA as 46.23±0.01 µg/mL whereas ascorbic acid (Positive control) was 51.2±0.01 µg/mL. The cytotoxicity assay indicates that low cytotoxicity effect of both CA (IC₅₀ 1200±11 µg/mL) and HA (1250±12 µg/mL) against human bone marrow cells after at 48 hours.

Conclusion: The results of the study revealed that high bioactivity and low cytotoxicity were recorded in CA than HA.

Keywords: *B. purpurea* 1, DPPH 2, Cytotoxicity 3

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