

The Cell Viability Study of Extracts of Bark, Flowers, Leaves and Seeds of Indian Dhak Tree, Flame of Forest

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Abstract : In pharmaceutical research and new drug development, medicinal plants have important roles. Similarly, Indian dhak tree belonging to family Fabaceae has been widely used in the traditional Indian medical system of 'Ayurveda' for the treatment of a variety of ailments. Hence the cell viability study was undertaken to evaluate and compare the activity of extracts of various parts like flower, bark, leaf, seed by conducting MTT assay method along with other pharmacognostical studies. The methanolic extracts of bark, flowers, leaves, and seeds were used for the study. The cell viability MTT assay was performed using the standard operating procedures. The extracts were dissolved in DMSO and serially diluted with complete medium to get the concentrations range of test concentration. DMSO concentration was kept < 0.1% in all the samples. HUVEC cells maintained in appropriate conditions were seeded in 96 well plates and treated with different concentrations of the test samples and incubated at 37°C, 5% CO₂ for 96 hours. MTT reagent was added to the wells and incubated for 4 hours; the dark blue formazan product formed by the cells was dissolved in DMSO under a safety cabinet and read at 550nm. Percentage inhibitions were calculated and plotted with the concentrations used to calculate the IC₅₀ values. The bark, flower, leaves and seed extracts have shown the cytotoxicity activity and can be further studied for antiangiogenesis activity.

Keywords : pharmacognosy, Cell viability, MTT assay, anti-angiogenesis

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