International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304
Vol.9, No.1, pp 153-163, 2016

Assessment of immunomodulatory activity of *Ficus benghalensis* Linn. aerial roots

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Abstract: The present study was undertaken to assess *in vitro* antioxidant and immunomodulatory activity for methanolic extract of *Ficus benghalensis* Linn. aerial roots (MEFB). Antioxidant activity of (MEFB)was evaluated by reducing power assay and hydrogen peroxide assay. Immunomodulatory activity was evaluated for specific and non-specific immune response by using *in vitro* assays as plaque forming cell assay and quantitative haemolysis assay and various *in vivo* models as heamagglutination antibody (HA) titer, delayed type hypersensitivity (DTH), T cell population and drug induced myelosuppression. Preliminary phytochemical investigation of (MEFB) showed presence of flavonoids, glycosides, phenols, tannins. (MEFB showed good antioxidant activity by reducing power assay and hydrogen peroxide assay with IC_{50} value 27.5 and 25 µg/ml respectively. (MEFB showed elevated response at a dose of 100 mg/kg bd.wt.for plaque forming cell and quantitave haemolysis assay. Methanolic extract of Ficus bengalensis showed a significant increase in the production of circulating antibody titer in response to sheep red blood cells (SRBC's) at dose of 100 mg/kg bd.wt. Methanolic extract of Ficus bengalensis showed significantly ($p<0.01$) increase in the delayed type hypersensitivity response by facilitating the footpad thickness response, increased the levels of haematological parameters, lymphocytes and rosettes formation, when results were compared with standard as Levamisole. Thus methanolic extract of *Ficus benghalensis* aerial roots has showed significant immunostimulatory activity with specific and non-specific mechanisms which may be due to the presence of prominent amount of flavonoids, phenols and tannins.

Key words: Immunomodulatory, *Ficus benghalensis*, plaque forming cell assay, quantitative haemolysis assay, delayed type hypersensitivity, haemagglutination titer, drug induced myelosuppression

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