



PharmTech

International Journal of PharmTech Research

CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563

Vol.13, No.03, pp 153-158, 2020

Comparative Antioxidant Activity of Ethanolic extracts of Whole Plant and Leaf Callus of *Mollugo oppositifolia* L. A Potent Traditional Medicinal Herb

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Abstract : Natural products from dietary components such as Indian species and medicinal plants are known to possess antioxidant activity. Antioxidants are inhibitors of oxidation are compounds which prevent the oxidation and in general prolong the life of the oxidizable matter. Majority of the diseases/disorders are mainly linked to oxidative stress due to free radicals. The free radicals (oxidants) are species with very short half-life, high reactivity and damaging activity towards macromolecules like proteins, DNA and lipids. In general, the reactive oxygen species circulating and react with the electron of other molecules in the body and these also affect various enzyme systems and cause damage which may further contribute to conditions such as cancer, ischemia, ageing, adult respiratory distress syndromes, rheumatoid arthritis etc. Dietary plants contain variable amounts of antioxidants. It has been proved that plant antioxidants may contribute to the beneficial health effects of dietary plants. The present study was to evaluate antioxidant activity of ethanolic extract of whole plant and leaf callus of *Mollugo oppositifolia* L. is an important traditional medicinal herb belonging to the family Molluginaceae using 2,2-diphenyl-1-Picryl-hydrazyl (DPPH) radical scavenging assays. The results obtained showed that the ethanolic extracts of whole plant and leaf callus showed significant DPPH activity with IC₅₀ value of 52.82± 0.0017 µg/mL and 58.66±0.004 µg/mL respectively, while IC₅₀ of vitamin C as standard was 84.84±11.54µg/mL. Present study revealed that an antioxidant activity was higher leaf callus extract compare to whole plant extract of *Mollugo oppositifolia* L..

Keywords : Antioxidant activity, Free radicals, leaf callus, 2,2-diphenyl-1-Picrylhydrazyl (DPPH) , *Mollugo oppositifolia* L., and whole plant.

Anju G Nagannawar et al /International Journal of PharmTech Research, 2020,13(2): 153-158.

DOI= <http://dx.doi.org/10.20902/IJPTR.2019.130304>
