

**IN VITRO AND IN VIVO VIRAL INHIBITORY ACTIVITY OF HYPERICUM SPECIES
AGAINST NEWCASTLE DISEASE VIRUS**

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ABSTRACT

Plants have been used as folk remedies and ethno botanical literature has described the usage of plant extracts, infusion and powders for centuries for diseases known to be of viral origin. This study investigated the antiviral property of the thirteen methanolic extracts from *Hypericum* species (*Hypericum hookerianum*, *Hypericum patulum*, *Hypericum japonicum*, *Hypericum perforatum* and *Hypericum mysorens*) against Newcastle disease virus (NDV). The antiviral property of these extracts was determined by investigating the inhibition of Hemagglutination pattern of NDV, in Hemagglutination inhibition assay and Neutralization assay methods, using embryonated chicken eggs. NDV was grown in 9th day old eggs by allantoic inoculation. Allantoic fluid was removed after 48 hour and virus titer was calculated. Among all the extracted tested, methanolic extract of stem, leaves, roots, flowers, aerial parts of *Hypericum hookerianum* and Aerial part extract of *Hypericum patulum* showed potent antiviral activity against NDV, as 100 % inhibition of hemagglutination was seen in both Hemagglutination inhibition assay and Neutralization assay at 1000 µg/ml and 250 µg/ml respectively. The other extracts failed to show hemagglutination inhibition even at higher concentrations. Further research is needed to elucidate the active constituents of these plants which may be useful in the development of new and effective antiviral agents.

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