ACTIVITY - GUIDED ISOLATION AND IDENTIFICATION OF ADHATODA VASICA. NEES (ACANTHACEAE) BARK CONSTITUENTS, WHICH INHIBIT LUMINOL-DEPENDENT CHEMILUMINESCENCE PRODUCTION BY ACTIVATED HUMAN POLYMORPHONUCLEAR LEUKOCYTES

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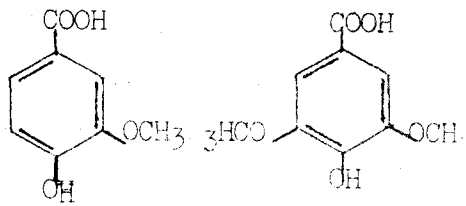
The Ayurvedic literature[1] and ethnopharmacological data collected by us[2] indicats that A.vasica is in great repute as a very efficacious remedy for bronchitis, fever,asthma, haemorrhagic disorders, rheumatism and skin diseases. In an initial screening of aqueous extracts of Sri Lankan medicinal plants for their influence on the human complement system in vitro, as an approach to the search for immuno-modulators of plant origin, the presence of immunomodulatory compounds in A.vasica was revealed[3].

We report here that in addition to its effect on complement, A.vasica is also capable of inhibiting luminol-dependent chemiluminescence generated by activated human polymorphoneuclear leukocytes (PMNLs). This effect may in part, account for the inflammation- related therapeutic effects claimed for aqueous preparations of the bark in traditional preparations in the Ayurvedic system of medicine[4].

An extract of A.vasica stem bark was fractionated, guided by the activity in the chemiluminescence test. This resulted in the isolation of Vanillic acid (1), Syringic acid (2), vasicinone (3), and Vasicinolone (4) as the active compounds. The action of the compounds were selective in that they did not influence the complement pathways. Vanillic acid and Syringic acid have not been reported previously as constituents of A.vasica.

Control experiments show clearly that the inhibition of chemiluminescence is not due to the scavanging of Reactive Oxygen Species (ROS).



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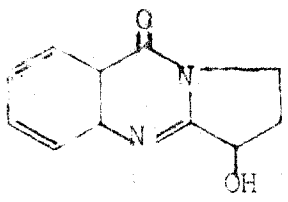

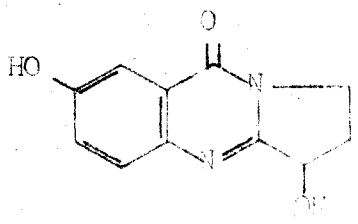

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