

ISOLATION OF A LECTIN FROM *ACANTHOSPERMUM HISPIDUM* ROOT

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Acanthospermum hispidum is an herbaceous Asteraceae used as a powerful healing and antiinflammatory by popular medicine. Lectins are proteins of non-immune origin that contains at least one sugar-binding site. The aim of this work was to purify and to characterize partially a lectin from *A. hispidum* roots. The extract of powdered root (10 %, w/v) was prepared in 0.15 M NaCl (16 h, 4°C) and treated with ammonium sulphate (0-20%, 20-40% and 40-60%). Hemagglutinating activity (HA) assay used rabbit erythrocytes. HA inhibition assay was performed with 0-20% fraction (F0-20%), monosaccharides and glycoproteins. F0-20% HA was evaluated at different temperatures (30-100 °C), pH values (5.0-9.0) as well as presence of cations (Mg²⁺ and Ca²⁺). F0-20% was submitted to SDS-PAGE (12.5%) and PAGE for basic or acidic (7.5%) proteins. F0-20% showed the highest specific HA (SHA, 3,698, purification factor of 1.48) and protein concentration (8.86 mg/mL). HA was mainly inhibited by azocasein and asialofetuin glycoproteins. F0-20% HA was stimulated by pH values 5.0-6.0 and divalent cations; no activity was detected at temperatures above 50 °C. SDS-PAGE and PAGE for acidic proteins revealed unique band. In conclusion, ammonium sulphate protein precipitation promoted purification of acidic and thermosensible *A. hispidum* lectin.

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Key words: *Acanthospermum hispidum*, lectin, roots.