

IDENTIFICATION OF LECTIN IN *SPONDIAS TUBEROSA* ENDOCARP

Ferreira, R.S., Brito, C.M.G., Coelho, L.C.B.B., Paiva, P.M.G.

Departamento de Bioquímica, UFPE, Brazil
ferreirarodrigo@click21.com.br

Lectins are proteins that recognize carbohydrates specifically and reversibly. Lectin interaction with cellular surface carbohydrates can promote erythrocyte hemagglutination and antinutritional effect. *Spondias tuberosa* (umbu) belongs to the Anacardiaceae family. In this work a lectin was purified from fruit endocarp and characterized. Extract (40% w/v) prepared in 0.15 M NaCl was treated with ammonium sulphate. Extract and fractions (0-20%, 20-40%, 40-60% and supernatant 60%) were evaluated. Hemagglutinating activity (HA) assay used human (types A, B, AB and O) or rabbit erythrocytes. HA inhibition was performed with carbohydrates (D(-) fructose, L(-) fucose, D(+) galactose, D(+) glucose, D(+) manose, D (+) trealose) and glycoproteins (asialofetuin, azocasein, ovalbumin, thyroglobulin, bovine fetal serum). HA assay was evaluated at different temperatures (30° C to 100° C), pH values (3.5 to 9.0) and ions presence (calcium and magnesium). Electrophoretic profile was made on polyacrylamide gel (10%, w/v) containing SDS (SDS-PAGE). Ammonium sulphate treatment promoted HA lost. Extract was chromatographed on Sephadex G-75. The highest HA was detected with AB erythrocytes. Galactose and glucose were best inhibitors. Bovine fetal serum and thyroglobulin inhibited extract activity. Heating of extract (100° C, 30 min) did not alter lectin activity. HA was high at pH 5.5 and stimulated with Ca⁺⁺. The electrophoretic profile of extract revealed a few protein bands. Endocarp HA was thermoresistent. Consumption of endocarp by people did stimulate the lectin isolation.

Supported by CNPq.