Isolation of a Lectin from *Schinus terenbithifolius* (*aroeira-da-praia*) Leaves

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Schinus terenbithifolius (*aroeira-da-praia*, Anacardiaceae family) leaves have demonstrated analgesic, antirheumatic and healing effects and are used in popular medicine to treat gingivitis, candidiasis, mycoses and fevers. Lectins constitute a heterogeneous group of proteins from nonimmune origin, differing from each other with respect to their molecular structures, carbohydrate-binding specificities and biological activities. The aim of this work was to isolate *S. terenbithifolius* leaf lectin (SteLL). The extract (10%, w/v) was prepared in 0.15 M NaCl (16 h at 4 ºC) and treated with ammonium sulphate in different saturations (0-20%, 20-40%, 40-60% and 60-80%). Hemagglutinating activity (HA) of fractions was evaluated with rabbit erythrocytes and HA inhibitory assay was performed with carbohydrates (stachiose, galactose, glucose, N-acetyl-glucosamine) and glycoproteins (azocasein, ovalbumin). The more active 40-60% fraction (specific HA: 399) was chromatographed on chitin column equilibrated with 0.15 M NaCl and the HA (SteLL) eluted with 1.0 M acetic acid was evaluated by polyacrylamide gel (15 %) electrophoresis (PAGE) for native acidic or basic proteins. All HA chromatographed was recovered in SteLL (specific HA: 18,618, 4.6 mg of protein; purification: 46.6 fold); SteLL activity was reduced with galactose, glucose, N-acetyl-glucosamine, stachiose and ovalbulmin for 4,654, 4,654, 4,654, 2,327 and 581, respectively. Azocasein abolished SteLL HA. A unique protein band was detected in PAGE for basic proteins. In conclusion, leaves of *S. terenbithifolius* contain an anionic chitin-binding lectin that can be highly purified in milligram quantities by one chromatographic step.

Supported by: CNPq and CAPES.

Key words: aroeira, leaf lectin, *Schinus terenbithifolius*.