

PURIFICATION OF *Crataeva tapia* BARK LECTIN AND ITS USE AS BIOSPECIFIC ADSORBENT FOR GLYCOPROTEIN ISOLATION

Araújo, R.M.S.¹; Correia, M.T.S.¹; Coelho, L.C.B.B.¹ and Paiva, P.M.G.¹

¹Departamento de Bioquímica, Laboratório de Glicoproteínas, Centro de Ciências Biológicas, Universidade Federal de Pernambuco, Recife-PE, Brazil, reginamsa@yahoo.com.br

Lectins constitute a heterogeneous protein group that recognize and reversibly bind to saccharide moieties. Lectins have been isolated from vegetative tissues such as bark from legume trees. *Crataeva tapia* belongs to the Capparaceae family and its bark is popularly used at the Northeast of Brazil as hypoglycemic material. A lectin from *C. tapia* bark, CrataBL, was purified to electrophoretic homogeneity by ammonium sulphate fractionation and ion exchange chromatography. CrataBL hemagglutinating activity (HA) was obtained with human, chicken and rabbit erythrocytes, which was mainly inhibited by glycoproteins. CrataBL was thermostable and EDTA treatment or Ca²⁺, Mg²⁺ and Mn²⁺ addition did not affect HA. CrataBL migrated as a single band after electrophoresis to native basic proteins and two polypeptide bands of molecular mass 21,000 Da (main band) and 40,000 Da after SDS-PAGE, with or without reducing agent; polypeptides stained using Schiff's reagent. Native CrataBL also interacted upon agarose gel with Cramoll 1,4, a glucose/mannose lectin, and showed molecular mass of 40,000 Da by gel filtration chromatography. CrataBL immobilized on Sepharose 4B bioselectively adsorbed casein, fetuin and ovalbumin. The immobilized homogeneous lectin can be used as affinity matrix for glycoprotein isolation.

Supported by: CNPq

Keywords: Bark lectin; *Crataeva tapia*; lectin immobilization; glycoprotein isolation.