PARTIAL PURIFICATION AND CHARACTERIZATION OF LECTIN(S) FROM TAMBAQUI AMAZON FISH

Maciel de Carvalho, E.V.M.[1]; Bezerra, R.F.[1]; Silva, C.D.C.[1]; Lino, M.A.S.[1].; Bezerra, R.S.[1], Santos, A.J.G.[2], Correia, M.T.S.[1], Coelho, L.C.B.B.[1].

1- Departamento de Bioquímica, Centro de Ciências Biológicas, UFPE, Recife - PE-50670-910. 2– Departamento de Engenharia de Pesca, UFRPE.

Lectins constitute a group of proteins that recognize and specifically bind carbohydrates. These proteins have a significant role in the immune responses of hosts and recognize carbohydrate molecules expressed on pathogens helping their opsonization and phagocytosis. The tambaqui (*Colossoma macropomum*) is a native fish from the Amazon Region; it is one of the most important species in Brazilian pisciculture. In the present work the tambaqui serum lectin was partially purified through an initial ammonium sulfate precipitation step. The preparation with the highest hemagglutinating activity (HA), fraction 0-50% (F1, HA: 2048^{-1}) was partially inhibited by fucose, galactose and methyl-a-D-galactose carbohydrates. F1 (34.03 mg/mL, Bradford method) was subjected to affinity chromatography on Concanavalin A-Sepharose 4B; the affinity adsorbed material was eluted with 200 mM N-methyl-glucosamine. Active peak fractions were pooled, dialyzed and passed through a DEAE-Sepharose column, a weak anion exchanger. Proteins were eluted with a saline gradient (0 to 150 mM NaCl) in one active peak. The final preparation contained 5 acidic protein bands. It can be concluded that tambaqui serum lectin(s) was partially purified; it recognized galactose and fucose.

Keywords: *Colossoma macropomum*; Lectin; Galectin; Purification.

Financial support: CNPq.