Cratylia Mollis ISOLECTIN 3 (CRAMOLL 3)-SEPHAROSE CL-4B AS AFFINITY MATRIX TO GLYCOPROTEIN ISOLATIONS

Ferreira, R.S.¹; Pontual, E. V.¹; Araújo, F.F.B.¹; Coelho, L.C.B.B.¹; Paiva, P.M.G.¹

¹ Departamento de Bioquímica, Laboratório de Glicoproteínas, CCB/UFPE, Recife, Brasil.

Lectins are carbohydrate binding proteins. Cratylia mollis seeds contain multiple molecular forms of lectins (Cramoll), including Cramoll 3 inhibited by galactose. Affinity matrices are constructed by the incorporation to an insoluble support of a lectin. The aims of this work were immobilization of Cramoll 3 on Sepharose CL-4B and capacity evaluation of matrix (Cramoll 3-Sepharose) in binding glycoproteins. The isoform was obtained by previously established protocol. Cramoll 3 (2.8 mg) was immobilized on Sepharose CL-4B and commercial glycoproteins (asialofetuin, azocasein, fetuin, ovoalbumin and thyroglobulin) or preparations of pig thyroid and egg white were chromatographed on Cramoll 3-Sepharose columns (1 ml). Elutions were performed with 1 M NaCl and fractions were collected (1ml). The coupling of Cramoll 3 to Sepharose CL-4B was efficient (estimated 100 %). Columns did bind to asialofetuin and thyroglobulin (23%), as well as to azocasein (20%) and ovoalbumin (10%); no binding was detected with fetuin. The matrix yielded 0.43 and 0.27 mg of glycoprotein from thyroid and egg white preparations, respectively. Cramoll 3-Sepharose was biospecifically selective when evaluated with different commercial glycoproteins and was efficient in the glycoprotein isolation from complex mixtures.

Supported by: CNPq and CAPES

Key words: Immobilization, lectin, glycoprotein.