

## HRP IMMOBILIZATION IN *ANACARDIUM OCCIDENTALE* L. POLYSACCHARIDE TREATED BY GLUTARALDEHYDE.

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*Anacardium occidentale* gum is composed by complex branched heteropolysaccharides and their calcium/magnesium/potassium/sodium salts. This material is soluble in water forming a low viscosity solution that can be precipitated by organic polar solvents. In this work cashew gum polysaccharide (CGP) activated by glutaraldehyde was used for horseradish peroxidase (HRP) immobilization. Aqueous solution (20% w/v) of CGP was precipitated with ethanol (1:3 v/v), dried at 25°C and activated with 2.5 and 5.0% (v/v) glutaraldehyde solution (CGPg). The immobilization of HRP was performed adding increasing amounts (250 to 1000µL) of HRP solution (24U mL<sup>-1</sup>) to 15mg CGPg, for 30 min at 4°C. The CGPg-HRP was precipitated by ethanol or isopropanol, acetonitrile, acetone, ethylic ether, chloroform, hexane and dimethylsulfoxide (DMSO). The CGPg-HRP activity was tested with pyrogallol (0.07 mol L<sup>-1</sup>) and hydrogen peroxide (0.05mol L<sup>-1</sup>). CGPg was very efficient for HRP immobilization, with 100% yield when 500 µL of HRP solution reacted with 15mg CGPg 5%, pH 6,0. The reusability of the CGPg-HRP tested in the cited solvents resulted in a best performance when acetone was used to precipitate CGPg-HRP, with 38% of activity in the tenth use. The reuse efficiency was decreasing with chloroform (39%-3th) acetonitrile (12%-4th), isopropanol (10%-3th). ethanol (6%-3th), hexane (1,3%-3th). The results of this work are very promising indicating CGP as a very good support.