

Purification and partial characterization of a lectin from *Caesalpinia ferrea* seeds.

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Introduction: *Caesalpinia ferrea*, commonly named Jucá or Pau-Ferro, is a Leguminosae economically important species that has been used in several industrial sectors, such as food, textile, papermaking and cosmetic. Also, *C. ferrea* barks, roots and fruits are largely used with therapeutical purposes. Therefore, this species represents a potential source of molecules of commercial interest. Among these molecules we should highlight the lectins which are proteins that present at least one non-catalytic site which binds to mono or oligosaccharides. Due this characteristic, the lectins are largely used on blood typing, microorganism identification, diagnosis of diseases and recently as an alternative for drug delivering. The goal of the present work was to detect the presence of lectin activity in *C. ferrea* seeds and perform the isolation and partial characterization of this molecule. **Material and Methods:** The crude extract was obtained from *C. ferrea* seeds finely ground and stirred with Tris/HCl 20 mM. Following, the extract was submitted to precipitation by using acetone 80% before ion exchange chromatography in DEAE Sepharose Fast Flow column. Each fraction was screened for lectin activity by determining the hemagglutination activity (HA) in 2% human erythrocyte suspension from different ABO type. The agglutinating fraction was mixed with carbohydrates and the HA inhibition was observed. **Results:** The extraction method was efficient to obtain the crude extract showing HA, which suggested the presence of lectin. The chromatographic separation provided four fractions of molecules. The HA was observed in the fourth fraction and was specific for A type blood. The agglutination was not inhibited by the sugars tested (glucose, fructose, galactose, sucrose and maltose). Tests using different sugars are under progress, as well as affinity chromatography purification. **Conclusion:** The present study revealed a potential lectin with HA specific for A type blood extracted from *C. ferrea* seeds.

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