

A lectin from *Sebastiania jacobinensis* Bark: Purification and Partial Characterization

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Lectins, a group of sugar-binding proteins, are neither antibodies nor enzymes. These molecules are widely distributed through bacteria, fungi, invertebrates, vertebrates and plants. *Sebastiania jacobinensis* ("pau de leite") belongs to the Euphorbiaceae family and is used as a medicinal plant with anti-inflammatory, healing and anticoagulant activities. This work aims to purify and partially characterize *S. jacobinensis* bark lectin (SejaBL). The lectin was obtained through precipitation with ammonium sulphate followed by ion exchange chromatography in CM-Cellulose. Thermal stability, pH values, inhibition with carbohydrates and glycoproteins, ion influence, resistance to oxidizer agents (malonaldehyde, urea, SDS, and EDTA) and polyacrylamide gel electrophoresis were assayed to characterize the pure lectin. SejaBL agglutinated different erythrocytes; none used monosaccharides inhibited SejaBL agglutination, however, glycoproteins totally abolished activity. SejaBL was active after heating until 70 °C for 30 min; no activity was detected after 100 °C by 1 h. Ions or different pH values did not alter lectin activity. Also, SejaBL activity diminished after treatment with SDS, EDTA, urea or malonaldehyde. The lectin revealed one band (glycoprotein) by electrophoresis with an apparent molecular mass of 50 kDa. In conclusion, the purification protocol used was efficient to obtain a lectin with stable activity under high temperatures, different pH values and oxidizer agents.

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Key words: lectin, *Sebastiania jacobinensis*, protein purification.