CHARACTERIZATION OF PROPERTIES a-AMYLASE INHIBITORY OF RIC C 1 AND RIC C 3 ISOLATED FROM *RICINUS COMMUNIS* SEEDS AND PREDICTION OF THE TERTIARY STRUCTURE OF RIC C 1

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Ric c 1 and Ric c 3 are 2S albumin from *Ricinus communis* seeds with allergenic properties. 2S albumins are storage and defense proteins found in dicotyledonous plants and legumes with 12-15 kDa composed by four disulfide bridges. In this work, the 2S albumin were extracted from *R. communis* seeds with phosphate buffer and ammonium sulfate precipitation (90 %). These polypeptides were isolated by gel filtration column (Sephadex G-50), followed by reverse phase chromatography (C18 column) and 2S albumin isoforms (Ric c 1 and Ric c 3) were purified by preparative eletrophoresis. We have demonstrated that Ric c 1 and Ric c 3 isoforms inhibits the α-amylase activity of insect larvae (*Zabrotes subfasciatus*, *Callosobruchus maculatus* and *Tenebrio molitor*) and human salivary α-amylase. We also have predicted the Ric c 1 tertiary structure utilizing Swiss model program, based in Ric c 3 structure that was determined by RMN. The solution structure for Ric c 1 may help to establish meaningful relationships among structure, allergenicity and α-amylase inhibition that could be used in plant defense and allergy therapy.

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