

A New 2S Albumin From *Jatropha curcas* L. Seeds With Allergenic Properties

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Physic nut (*Jatropha curcas* L.) seeds are rich in non-edible oil and it has been considered as one of the best candidates for future biodiesel production. Once the seeds were pressed, the seed cake can be used as feed in digesters and gasifiers to produce biogas for cooking and in engines or be used for fertilizing. The aim of this work was to investigate the presence of the 2S albumin in physic nut. Some 2S proteins could induce allergic reactions. After protein extraction and gel filtration on Sephadex G-50 chromatography the region correspondent to 2S albumin was fractioned by RP-HPLC - C18 column. The 2S fraction obtained after these procedures presented a glycosilated protein with low molecular weight (11,2 KDa) as observed by SDS-PAGE. This protein was denaturated with guanidine, reduced with DTT and alkylated with vinylpyridine. And the subunits (small and large) were separated by reverse phase chromatography and the N-terminal partial sequences showed similarity with 2S albumin from several sources. The *J. curcas* 2S albumin (Jac c 1) demonstrated to bind IgE attached on rat mast cells and induced the release of histamine (*in vitro*) by mast cell degranulation assay. PCA, a type I allergic reaction *in vivo*, mediated by specific antibody IgE in rats was induced by Jac c 1 confirmed it is in fact an allergen that cross reacted with 2S albumin pool from castor seeds.

Key words: 2S albumin, allergy, *Jatropha curcas*, Physic nut

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