ISOLATION AND PARTIAL CHARACTERIZATION OF GLOBULIN FROM CASSAVA (*Manihot Esculenta* Crantz) TUBERS

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ABSTRACT

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Soluble globulin was isolated using an extraction buffer (0.4 M NaCl in 35 mM potassium phosphate buffer, pH 7.6 with 0.02% Na azide). The isolated globulin was subjected to solubility tests with different NaCl concentrations. It has the highest solubility in 1.25M NaCl (1.09%) but no significant differences existed among the NaCl concentrations by analysis using one-way ANOVA at $\alpha = 0.05$. Three major bands existed at 1.00M NaCl dissolved globulin with molecular weight range of 28-33kDa, 38-43kDa and 65-70kDa relative to BSA. Two of these bands (38-43kDa and 65-70kDa) were observed in 0.50M and 0.75M NaCl soluble globulin. The 1.25M and 1.50M NaCl concentrations gave a single band (28-33kDa) each while no clear bands in other NaCl concentrations were observed.

Amino acid analysis revealed glutamic acid (12.09%) as the most abundant amino acid component of cassava globulin. Nine (9) essential amino acids were present. Of these nine, lysine (10.50%) is the most predominant. Cystine (0.39%) has the lowest percentage followed by methionine (1.76%).