

Effect of Sodium Chloride on Thermal Properties of 30 kDa Protein Isolated from Melinjo Seed

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Abstract

*The thermal properties of melinjo (*Gnetum gnemon*) protein were studied using differential scanning calorimetry. The melinjo protein obtained from crude seed protein was isolated using isoelectric precipitation method. The molecular weight of the protein isolate about 30 kDa as estimated using SDS-polyacrylamide gel electrophoresis. The thermogram of MSPI showed a major endothermic peak at 84.1^oC and a minor transition at 109.5^oC with enthalpy value of 0.52 and 0.32 J/g, respectively. The progressive increasing in major endothermic peak with increase in NaCl concentrations, which suggested a more compact conformation of MSPI with higher thermal stability. Treatment by heating the sample at 80^oC for 5 min caused reduction of enthalpy value, indicated that MSPI denaturation occurred. In contrast, after MSPI combined with NaCl, the enthalpy value was increased, which showed that the of MSPI was more heat stable.*

Key words: Melinjo, protein isolated, thermal, NaCl, enthalpy