

Biochemical Characterization of Amandin, the Major Storage Protein in Almond (*Prunus dulcis* L.).

Sathe, SK 2002

Journal Of Agricultural And Food Chemistry
50(15):4333-4341.

Abstract:

The almond major storage protein, amandin, was prepared by column chromatography (amandin-1), cryoprecipitation (amandin-2), and isoelectric precipitation (amandin-3) methods. Amandin is a legumin type protein characterized by a sedimentation value of 14S. Amandin is composed of two major types of polypeptides with estimated molecular weights of 42-46 and 20-22 kDa linked via disulfide bonds. Several additional minor polypeptides were also present in amandin. Amandin is a storage protein with an estimated molecular weight of $427,300 \pm 47,600$ Da ($n = 7$) and a Stokes radius of 65.88 ± 3.21 A ($n = 7$). Amandin is not a glycoprotein. Amandin-1, amandin-2, and amandin-3 are antigenically related and have similar biochemical properties. Amandin-3 is more negatively charged than either amandin-1 or amandin-2. Methionine is the first essential limiting amino acid in amandin followed by lysine and threonine.