

Immunoreactivity of biochemically purified Amandin from thermally processed almonds (*Prunus dulcis* L.)

Zaffran, VD 2018
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Abstract:

Almond seeds were subjected to select thermal processing and amandin was purified from processed and unprocessed (control) seeds using cryoprecipitation. Amandin immunoreactivity was assessed using two murine monoclonal antibodies (mAbs)–4C10 and 4F10 detecting human IgE-relevant conformational and linear epitopes, respectively. Overall amandin immunoreactivity following thermal treatment ranged from 64.9% to 277.8% (4C10) and 81.3% to 270.3% (4F10). Except for autoclaving (121 °C, 15 psi, 30 min) and roasting (160 °C, 30 min), the tested processing conditions resulted in increased immunoreactivity as determined by mAbs 4C10 and 4F10-based enzyme-linked immunosorbent assays (ELISAs). A significant, yet not complete, reduction in immunoreactivity was caused by autoclaving (121 °C, 15 psi, 30 min) and roasting (160 °C, 30 min). Western- and dot-blot immunoassays corroborated the ELISA results, confirming amandin thermal stability.

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