

Title Inactivation of pectic lyases by light exposure in model systems and fresh-cut apple
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Citation Innovative Food Science & Emerging Technologies, Volume 10, Issue 4, October 2009, Pages 500-505
Keywords UV-C light; Pectin lyase; Pectate lyase; Blanching; Apple

Abstract

UV-C light exposure caused the inactivation of pectin lyases from *Aspergillus japonicus* and pectate lyase from apple under non-thermal conditions. Samples exposed to 20 W m^{-2} UV-C light showed D_L values, defined as the time needed for 90% enzyme activity reduction, around 20 min. However, an initial activation phase was observed for funigin pectin lyase, while UV-C light resistant forms of pectate lyase were identified in apple. Lyase inactivation occurred as a consequence of enzyme cleavage into fragments without catalytic activity having MW around 5 kDa. Fresh-cut apple slices exposed for a few minutes to UV-C light resulted significantly firmer than the untreated ones during 4 days of refrigerated storage, reasonably due to the decrease in activity of both endogenous and microbial lyases on the surface of the wound apple tissue.