

Title (3)	:	Acrylaway L activity on model asparagine to inhibit acrylamide and 5-hydroxymethylfurfural (HMF) formation in Malaysian curry puff skin
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Abstract	:	Acrylamide is carcinogenic, and it is most prevalent in high-temperature cooked foods through the Maillard reaction. Asparaginase has been suggested to mediate acrylamide reduction by breaking down asparagine as the substrate. The main aim of this study was to apply Acrylaway® L to model asparagine to minimise the formation of acrylamide and HMF in the skin of Malaysian curry puffs. Acrylaway® L activity was investigated before its application into the curry puff skin formulation. Enzyme concentration (control: no enzyme addition, 100, 300 and 500 U), asparagine concentration (0, 0.04, 0.06, 0.08 and 0.1 M), temperature (30, 37 and 40°C), incubation time (0, 3, 6, 9, 12 and 15 min) and pH (5, 7 and 9) were observed. The Acrylaway® L activity was examined based on the degradation of asparagine using the Nesslerization method. The highest Acrylaway® L activity was obtained at 0.1 M asparagine, at 30°C, pH 9, and 6 min. 500 U Acrylaway® L showed the highest activity for all the conditions. The acrylamide and 5-hydroxymethylfurfural content significantly reduced ($P<0.05$) when Acrylaway® L was added to fried curry puff skins.