

## RESEARCH NOTE

# Decolorization of kesinai (*Streblus asper*) leaf extract

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(Received 14 April 1998/ Accepted 15 September 1998)

**Abstract** The kesinai (*Streblus asper*) leaf extract is known to contain a protease enzyme which can be used to coagulate milk. This extract however, has an undesirable dark brown color due to enzymatic browning. Several methods were used in an attempt to remove this color. Polyvinylpyrrolidone, at concentrations of up to 50% (w/v) in the extraction buffer reduced the color by up to 18%, while total phenols was decreased by 40%. Protease activity and milk coagulating activity (MCA) was increased by 30% and 37% respectively. Blanching, at 65°C for 15 min, resulted in a 65% color and a 62% total phenol reduction, while protease activity and MCA were reduced by 60% and 70% respectively. Blanching at higher temperatures resulted in a better colored extract but enzyme specific activity and MCA losses were much higher. Column chromatography using silica, alumina, hydroxyapatite and charcoal was investigated. Silica and alumina gave the best results, in which both matrices lowered color by 41% and 50% respectively and the total phenol was reduced by 44% and 56% respectively while protease and MCA were not affected.

**Key words:** *Streblus asper*, polyvinylpyrrolidone, decolorization