

# Association between polymerization degree of apple peel polyphenols and inhibition of *Helicobacter pylori* urease

Pastene, Edgar

Troncoso, Miriam

Figueroa, Guillermo

Alarcón, Julio

Speisky, Hernán

Apple peel extracts and their fractions pooled according to their molecular size were prepared and evaluated for their inhibitory activity against *Helicobacter pylori* and Jack bean ureases. Urease Inhibitory effect of apple peel polyphenols (APPE) extracted from the Granny Smith variety was concentration-dependent and reversible. High molecular weight polyphenols (HMW) were more active against *Helicobacter pylori* and Jack bean ureases than low molecular weight polyphenols with IC<sub>50</sub> values of 119 and 800  $\mu$ g GAE/mL, respectively. The results suggest that monomeric compounds (mainly flavan-3-ols and quercetin-O-glycosides) will not be implicated in the antiurease effect displayed by the apple peel polyphenols extract. Thus, as a byproduct, apple peel is suitable for developing functional ingredients that could be useful for neutralizing an important *Helicobacter pylori* colonization factor. © 2009 American Chemical Society.