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Características Viscoelásticas y Texturales de Geles Mixtos de Proteínas de Suero Lácteo y l-carragenina

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SUMMARY

The purpose of this research was to test the ability of a whey protein concentrate hydrolysate (WPH) obtained by treatment with pancreatin and its fraction of low molecular weight (WPHF, peptides 1KDa) to inhibit gastric mucosa ulcerative lesions caused by oral administration to rats of absolute ethanol. The WPH and WPHF were administrated in single and double dosis and compared to a whey protein concentrate (WPC). It was investigated the metabolic routes of cytoprotection by alkylation of sulfhydryl compounds, glutathione inhibition, nitric oxide and prostaglandin synthesis for WPH and WPHF. Acute administration (single dosis) of WPH resulted in 65.5% inhibition of the ulcerative lesion index (ULI), and 78.3% inhibition was obtained with repetitive dosis. For the whey protein hydrolysate fraction (WPHF) inhibition of ULI was 69.3% for single dosis and 64.6% for double dosis. Alkylation of SH-compounds by a subcutaneous injection of N-ethylmaleimide (NEM) dropped the protective effect of WPH and WPHF to 36.6% and 35.3%, respectively. Intraperitoneal injection of butathionine sulfoximine (BSO), which inhibit glutathione synthesis, dropped to a lesser extent the ULI inhibition of WPH and WPHF 65.74 and 60.43%, respectively. Indomethacin (10mg/ Kg body weight), which is a potent inhibitor of endogenous prostaglandin synthesis, reduced the protective effect of WPHF to 11%. These results may suggest that WPH and WPHF have antiulcerogenic activity against ethanol damage to gastric mucosa, which in part depends on sulfhydryl compounds present in the WPH and WPHF. The antiulcerogenic protective effect of peptides presented in WPHF may be exerted, especially through stimulation of endogenous prostaglandin synthesis.

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