〔Food Hydrocolloids, **5**, 249-267 (1991)〕 [Lab. of Hygienic Chemistry]

Interaction of Thaumatin with Carrageenans. III. Effects of Dye and pH studied by Spectrophotometry and Circular Dichroism.

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λ-,κ-,ι-Carrageenan-methylene blue complexes are dissociated by adding thaumatin. This phenomenon was detected by the recovery of methylene blue (MB) absorbance and elimination of the extrinsic Cotton effect. The recovery extent of MB absorbance depended on thaumatin concentration. The respective weight ratios of thaumatin of minimum concentration necessary for MB dissociation from the complexes to λ-,κ- and ι-carrageenans (Th/Cg) were 4.656/1, 3.302/1 and 3.753/1 at pH 4, 20.475/1, 15.935/1 and 25.155/1 at pH 7.

〔Food Hydrocolloids, **5**, 375-391 (1991)〕 [Lab. of Hygienic Chemistry]

Interaction of Thaumatin with Carrageenans. IV. Method for Prevention of Reduction of Sweetness Intensity of Thaumatin in Interaction with Carrageenan at pH 4.

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Studies were carried out to investigate the use of certain polysaccharides that could prevent the reduction of sweetness intensity of thaumatin caused by the interaction between λ-,κ- and ι-carrageenans and thaumatin. Measurements were taken of CD spectra, turbity, zeta potential and sweetness intensity of each thaumatin-polysaccharide-carrageenan mixed solution at pH 4. It was found that chitosan was the most effective polysaccharide in preventing reduction of sweetness intensity of thaumatin.

〔Jpn. J. Clin. Chem., **20**, 125-132 (1991)〕 [Lab. of Pharmaceutics]

Improved Monoclonal Immunocatalytic Assays (MICAs) for Human Alkaline Phosphatase Isozymes.

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New, improved isozyme-specific alkaline phosphatase assays were developed. The assays make use of isozyme-specific monoclonal antibodies coated to microtiter plates, and the specific immunoreactivity as well as the catalytic activity of the isozymes are taken into account in the assaying procedure. The new assays require 10-100 fold less monoclonal antibodies than do older ones, and are more rapid and easy to use. The inter- and intra-assay variations were within 10%, and the limits of detection were 0.05 IU/l for the placental isozyme, 1 IU/l for the intestinal isozyme and 10 IU/l for tissue-unspecific isozyme.