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Czech J. Food Sci.

**Václavíková E.,
Kvasnička F.:**

Isotachophoretic determination of glucosamine and chondroitin sulphate in dietary supplements

Czech J. Food Sci., 31 (2013): 55-65

Glucosamine and chondroitin sulfate, components of normal cartilage, are used as ingredients in dietary supplements intended to treat osteoarthritis and/or to support joint health. Of concern is the documented lack of quality in many of the marketed products. We present here a capillary isotachophoretic method for the determination of glucosamine and chondroitin sulfate in dietary supplements. Cationic analysis of glucosamine was performed with a leading electrolyte consisting of 10mM NH_4OH + 20mM acetic acid. As the leading electrolyte for anionic analysis of chondroitin sulphate, a mixture of 5mM HCl + 10mM glycylglycine + 0.05% of 2-hydroxyethylcellulose was used. The solution of 10mM citric acid served as the

terminating electrolyte for both glucosamine and chondroitin sulfate analyses. The analytes were detected by conductivity and UV detectors. The characteristics of the method,, i.e., linearity, accuracy, repeatability, and quantitation limit, were evaluated. On a set of 35 samples of marketed dietary