3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

Aggrecan
from bovine articular cartilage

Catalog Number **A1960**
Storage Temperature –20 °C

Product Description

Aggrecan is the major structural proteoglycan found in the extracellular matrix of cartilage. It has a molecular mass >2,500 kDa. The core protein (210–250 kDa) has 100–150 glycosaminoglycan (GAG) chains attached to it. The majority of the GAG chains are chondroitin/ dermatan sulfate with the remainder being keratan sulfate. This structural molecule produces a rigid, reversibly deformable gel that resists compression. It combines with hyaluronic acid to form very large macromolecular complexes. Addition of small amounts (0.1–2% w/w) of hyaluronic acid to a solution of aggrecan (2 mg/ml) results in the formation of a complex with an increased hydrodynamic volume and in a significant increase (30–40%) in the relative viscosity of the solution.

Aggrecan is a critical component for cartilage structure and the function of joints. The synthesis and degradation of aggrecan are being investigated for their roles in cartilage deterioration during joint injury, disease, and aging. It contains three globular domains, G1, G2, and G3 that are involved in aggregation, hyaluronan binding, cell adhesion, and chondrocyte apoptosis.

This product is extracted from articular cartilage, chromatographically purified, dialyzed against water, and sterile-filtered prior to lyophilization. The lyophilized powder is essentially salt-free.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is soluble in water (2 mg/ml).

Storage/Stability

Store the product at –20 °C. The product, as supplied, shows little decomposition in 3 years when stored properly.

References

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