Datasheet for ABIN2666766

Aggrecan Protein (ACAN) (AA 20-675)

1 Image

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Overview

Quantity:	100 µg
Target:	Aggrecan (ACAN)
Protein Characteristics:	AA 20-675
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Biological Activity:	Active
Application:	ELISA, Flow Cytometry (FACS)

Product Details

Purity:	> 95 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.1 EU per µg of protein as determine by the LAL method.

Target Details

Target:	Aggrecan (ACAN)
Alternative Name:	Aggrecan (ACAN Products)
Background:	Aggrecan, also known as aggrecan 1, is the major proteoglycan in the articular cartilage. This high molecular weight protein exhibits a bottlebrush structure, in which chondroitin sulfate and keratan sulfate chains are attached to an extended protein core. Aggrecan plays an important role in the proper functioning of articular cartilage by providing a hydrated gel structure through

Target Details

	its interaction with hyaluronan and link proteins, that endows the cartilage with load-bearing properties. Aggrecan is expressed by chondrocytes and found to be crucial in chondroskeletal morphogenesis during development. Mutations in this gene may be involved in skeletal dysplasia and spinal degeneration. Structurally, aggrecan is composed of two globular structural domains (G1 and G2) at the N-terminal end and one globular domain (G3) at the C-terminal end, separated by a large extended domain (CS) heavily modified with glycosaminoglycans. G1 and G2 domains of aggrecan are separated by the interglobular domain (IGD). Biologically, the G1 domain interacts with hyaluronan acid and link proteins, forming stable ternary complexes in the extracellular matrix (ECM). The G2 domain is homologous to the tandem repeats of G1 and link proteins, and is involved in product processing. G3 makes up the carboxyl terminus of the core protein, and enhances glycosaminoglycan modification and product secretion. Also, the G3 domain links the proteoglycan aggregates to the ECM proteins (fibulins and tenascins). Degradation of aggrecan appears to initiate at the C-terminus. The population of aggrecan molecules without the G3 domain increases with aging.
Molecular Weight:	This 672 amino acid recombinant protein with a C-terminal His tag has a predicted molecular mass of approximately 74.3 kDa. The protein migrates at about 120 kDa by SDS-PAGE in DTT-reducing and non-reducing conditions. The predicted N-terminal amino acid
Pathways:	Glycosaminoglycan Metabolic Process, Dicarboxylic Acid Transport

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: Recombinant human aggrecan (G1-IGD-G2) binds immobilized hyaluronan-biotin (0.1 µg/ml) on a streptavidin plate in a dose dependent manner with a ED50 of 2.5 - 9.0 µg/ml.
Restrictions:	For Research Use only

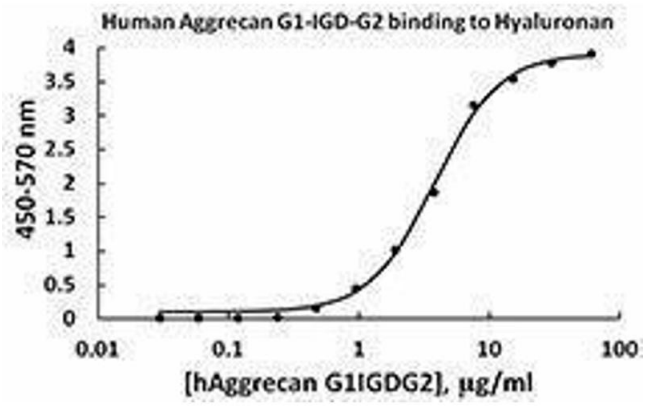
Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein such as 1 % BSA or HSA. After dilution, the cytokine can be stored between 2 °C and 8 °C for one month or from -20 °C to -70 °C for up to 3 months.

Handling

Concentration:	200 µg/mL
Buffer:	0.22 µm filtered protein solution is in PBS.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for three months, at -20°C for six months, or at -70°C for one year.

Images



Flow Cytometry

Image 1.