

Aggrecan Protein, Human, Recombinant (His)

General Information

Synonyms:	CSPG1;MSK16;AGC1;ACAN
Protein Construction:	Ala17-Leu721
Species:	Human
Expression Host:	HEK293 Cells
Accession:	Q6PID9
Molecular Weight:	78.86 kDa (predicted). Due to glycosylation, the protein migrates to 90-130 kDa based on Tris-Bis PAGE result.

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95% as determined by Tris-Bis PAGE; > 95% as determined by HPLC
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing PBS (pH 7.4). Typically, 8% trehalose is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μ g/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Aggrecan is a large proteoglycan that forms giant hydrated aggregates with hyaluronan in the extracellular matrix (ECM). The extraordinary resistance of these aggregates to compression explains their abundance in articular cartilage of joints where they ensure adequate load-bearing. In the brain, they provide mechanical buffering and contribute to formation of perineuronal nets, which regulate synaptic plasticity. Aggrecan is also present in cardiac jelly, developing heart valves, and blood vessels during cardiovascular development. Whereas

aggrecan is essential for skeletal development, its function in the developing cardiovascular system remains to be fully elucidated.

Reference

Koch CD, et al. Aggrecan in Cardiovascular Development and Disease. J Histochem Cytochem. 2020 Nov;68(11):777-795. doi: 10.1369/0022155420952902. Epub 2020 Sep PMID: 32870742; PMCID: PMC7649964.

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