

**SM1353P****Monoclonal Antibody to Aggrecan - Purified**

<b>Alternate names:</b>	ACAN, AGC1, CSPG1, Cartilage-specific proteoglycan core protein, Chondroitin sulfate proteoglycan core protein 1, MSK16
<b>Quantity:</b>	0.2 mg
<b>Concentration:</b>	1.0 mg/ml
<b>Background:</b>	Aggrecan is a member of a family of large, aggregating proteoglycans (also including versican, brevican and neurocan) which is found in articular cartilage. Aggrecan is composed of three major domains: G1, G2, and G3. Between the G1 and G2 domains there is an interglobulin region (IGD). The IGD region is the major site of cleavage by specific proteases like metalloproteinases (MMPs) and aggrecanase. Aggrecan cleavage has been associated with a number of degenerative diseases including rheumatoid arthritis and osteoarthritis. There is evidence that this family of proteoglycans modulates cell adhesion, migration, and axonal outgrowth in the CNS.
<b>Uniprot ID:</b>	<a href="#">P16112</a>
<b>NCBI:</b>	<a href="#">9606</a>
<b>GeneID:</b>	<a href="#">176</a>
<b>Host / Isotype:</b>	Mouse / IgG1
<b>Recommended Isotype Controls:</b>	SM10P (for use in human samples), AM03095PU-N
<b>Clone:</b>	HAG7D4 (7D4)
<b>Immunogen:</b>	Purified Human articular cartilage Aggrecan. <b>Remarks:</b> Spleen cells from immunised BALB/c mice were fused with cells of the mouse NS1 myeloma cell line.
<b>Format:</b>	<b>State:</b> Liquid purified IgG fraction from Tissue Culture Supernatant <b>Purification:</b> Affinity Chromatography on Protein A <b>Buffer System:</b> PBS <b>Preservatives:</b> 0.09% Sodium Azide
<b>Applications:</b>	<b>ELISA.</b> <b>Western blot.</b> <b>Immunoprecipitation.</b> <b>Immunohistochemistry on Frozen Sections.</b> <b>Immunohistochemistry on Paraffin Sections:</b> Requires a standard heat mediated antigen retrieval using a microwave. <b><i>Histology Positive Control Tissue:</i></b> Cerebral Cortex. Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.
<b>Specificity:</b>	This antibody Clone 7D4 Cat.-No SM1353P recognizes Human Aggrecan, a proteoglycan component of cartilage matrix and member of the aggrecan/versican proteoglycan family, which forms a major component of the extracellular matrix (ECM) of both cartilage and the central nervous system (CNS).

Studies also showed a difference in the relative abundance of these isoforms when comparing brain and cartilage tissues (*Virgintino et al.* 2009 in Ref.1).

SM1353P recognizes epitopes within the N-terminal G1-IGD-G2 region of Aggrecan, that has been identified as a cluster 1 isoform.

**Negative Species:** Chicken, Fish and Rat.

**Species Reactivity:**

**Tested:** Human and Bovine.

**Storage:**

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.

Avoid repeated freezing and thawing.

Shelf life: One year from despatch.

**Product Citations:**

**Purchased from Acris:**

1. Anders JO, Mollenhauer J, Beberhold A, Kinne RW, Venbrocks RA. Gelatin-based haemostyptic Spongostan as a possible three-dimensional scaffold for a chondrocyte matrix?: an experimental study with bovine chondrocytes. *J Bone Joint Surg Br.* 2009 Mar;91(3):409-16. doi: 10.1302/0301-620X.91B3.20869. PubMed PMID: 19258622.

**General Readings:**

1. Virgintino D, Perissinotto D, Girolamo F, Mucignat MT, Montanini L, Errede M, et al. Differential distribution of aggrecan isoforms in perineuronal nets of the human cerebral cortex. *J Cell Mol Med.* 2009 Sep;13(9B):3151-73. doi: 10.1111/j.1582-4934.2009.00694.x. Epub 2009 Feb 9. PubMed PMID: 19220578.

2. Shintani N, Hunziker EB. Differential effects of dexamethasone on the chondrogenesis of mesenchymal stromal cells: influence of microenvironment, tissue origin and growth factor. *Eur Cell Mater.* 2011 Nov 24;22:302-19; discussion 319-20. PubMed PMID: 22116649.

**Pictures:**

Recombinant Human Aggrecan detected with Aggrecan Antibody Cat.-No SM1353P followed by Goat anti Mouse IgG -Dylight®800. Visualised using a LI-COR Odyssey® infrared imaging system.

