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ACAN Polyclonal Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP54583

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P16112
Reactivity	Rat, Pig, Dog, Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	261329
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from mouse ACAN
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Secreted, extracellular space, extracellular matrix.
SIMILARITY	Belongs to the aggrecan/versican proteoglycan family.Contains 1 C-type lectin domain.Contains 1 EGF-like domain.Contains 1 Ig-like V-type (immunoglobulin-like) domain.Contains 4 Link domains.Contains 1 Sushi (CCP/SCR) domain.
SUBUNIT	Interacts with FBLN1. Interacts with COMP.
Post-translational modifications	Contains mostly chondroitin sulfate, but also keratan sulfate chains, N-linked and O-linked oligosaccharides. The release of aggrecan fragments from articular cartilage into the synovial fluid at all stages of human osteoarthritis is the result of cleavage by aggrecanase.
DISEASE	Spondyloepiphyseal dysplasia type Kimberley (SEDK) [MIM:608361]: Spondyloepiphyseal dysplasias are a heterogeneous group of congenital chondrodysplasias that specifically affect epiphyses and vertebrae. The autosomal dominant SEDK is associated with premature degenerative arthropathy. Note=The disease is caused by mutations affecting the gene represented in this entry.Spondyloepimetaphyseal dysplasia aggrecan type (SEMD-ACAN) [MIM:612813]: A bone disease characterized by severe short stature, macrocephaly, severe midface hypoplasia, short neck, barrel chest and brachydactyly. The radiological findings comprise long bones with generalized irregular epiphyses with widened metaphyses, especially at the knees, platyspondyly, and multiple cervical-vertebral clefts. Note=The disease is caused by mutations affecting the gene represented in this entry.Osteochondritis dissecans short stature and early-onset osteoarthritis (OD) [MIM:165800]: A type of osteochondritis defined as a separation of cartilage and subchondral bone from the surrounding tissue, primarily affecting the knee, ankle and elbow joints. It is clinically characterized by multiple osteochondritic lesions in knees and/or hips and/or elbows, disproportionate short stature and early-onset osteoarthritis. Note=The disease is caused by mutations affecting the gene represented in this entry.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	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.

Additional Information

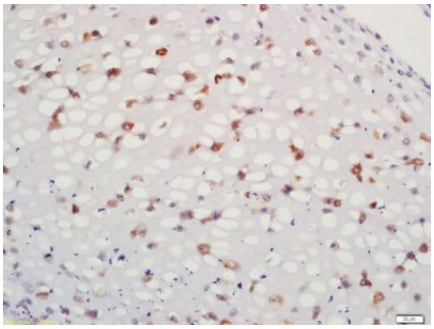
Gene ID	176
Other Names	Aggrecan core protein, Cartilage-specific proteoglycan core protein, CSPCP, Chondroitin sulfate proteoglycan core protein 1, Chondroitin sulfate proteoglycan 1, Aggrecan core protein 2, ACAN, AGC1, CSPG1, MSK16
Target/Specificity	Restricted to cartilages.
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Format	0.01M TBS(pH7.4) with 1% BSA, 0.09% (W/V) sodium azide and 50% Glyce
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

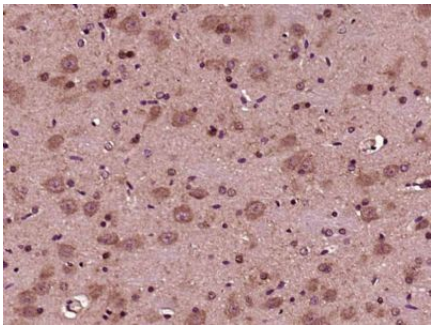
Name	ACAN
Synonyms	AGC1, CSPG1, MSK16
Function	This proteoglycan is a major component of extracellular matrix of cartilagenous tissues. A major function of this protein is to resist compression in cartilage. It binds avidly to hyaluronic acid via an N-terminal globular region.
Cellular Location	Secreted, extracellular space, extracellular matrix {ECO:0000250|UniProtKB:P07898}
Tissue Location	Detected in fibroblasts (at protein level) (PubMed:36213313). Restricted to cartilage (PubMed:7524681)

Images

Tissue/cell: bone of mouse embryo; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-Aggrecan Polyclonal Antibody, Unconjugated(AP54583) 1:200, overnight at 4°C, followed



by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining



Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Aggrecan) Polyclonal Antibody, Unconjugated (AP54583) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.