

MONOCLONAL ANTIBODY

For research use only. Not for clinical diagnosis

Catalog No. PRPG-AG-M03

Anti- Aggrecan [ACAN/CSPG1] (5G2)

BACKGROUND

Aggrecan is the major proteoglycan of cartilaginous ECMs, in particular the articular cartilage one, is a primary component of perineuronal nets of the CNS and is present in tendon, sclera and bone. While the precise function of *aggrecan* surrounding CNS neurons remains obscure, in articular cartilage it contributes to the creation of the hydrated gel structure of the ECM via its interaction with hyaluronan, link protein, CMPs, COMP and collagen type IX. Deletion of the *aggrecan* gene leads to early disturbances in chondrogenesis and brain formation...*

Product type	Primary antibodies		
Immunogen	Intact aggrecan isolated from human normal articular cartilage (MW >2,400 kDa)		
Rased in	Mouse		
Myeloma	-		
Clone number	5G2		
Isotype	lgG1		
Host	-		
Source	Hybridoma cell culture		
Purification	-		
Form	Liquid		
Storage buffer	Supernatant supplemented with 0.05% NaN3		
Concentration	ND		
Volume	2 mL		
Label	Unlabeled		
Specificity	Aggrecan (ACAN/CSPG1); the epitope resides within the G3 lectin-binding domain		
Cross reactivity	Human (not bovine, rat, chick or shark; other species not assayed)		
	Other species have not been tested.		
Storage	Store at 4°C for short-term storage and -20°C for prolonged storage		
	Aliquot to avoid cycles of freeze / thaw.		
Other	Data Link : UniProtKB/Swiss-Prot P16112 (PGCA HUMAN)		
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Application notes	WB, IP, IHC(P), ELISA		
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ANTIBODY CHARACTERIZATION



Fig.1 Immunoblotting of a human articular cartilage aggrecan preparation following SDS-PAGE on 3-8% linear gradient gels under reducing conditions, prior to (Intact) and after combined chondroitinase ABC and keratanase II digestion (Digested)



Fig.2 Ilmmunostaining for aggrecan in human articular cartilage. (B) and aggrecan in human adult cerebral cortex (arrows point to neurons and perineuronal nets) **(C)**

RELATED PRODUCTS:

Product Name	Maker	Cat#
Anti Aggrecan (6F4) Monoclonal Antibody	CAC	PRPG-AG-M01
Anti Aggrecan (5D3) Monoclonal Antibody	CAC	PRPG-AG-M02
Anti Aggrecan (5G2) Monoclonal Antibody	CAC	PRPG-AG-M03
Anti Aggrecan (7B7) Monoclonal Antibody	CAC	PRPG-AG-M04
Anti Versican/CSPG2 (5C12) Monoclonal Antibody	CAC	PRPG-VS-M01
Anti Versican/CSPG2 (4C5) Monoclonal Antibody	CAC	PRPG-VS-M02
Anti NG2 / CSPG4 (2164H5) Monoclonal Antibody	CAC	PRPG-NG-M01
Anti COMP (484D1) Monoclonal Antibody	CAC	PRPG-CP-M01
Anti COMP (490D11) Monoclonal Antibody	CAC	PRPG-CP-M02
Anti Keratan sulfate (373E1) Monoclonal Antibody	CAC	PRPG-KS-M01
Anti Decorin (889C7) Monoclonal Antibody	CAC	PRPG-DC-M01
Anti Fibromodulin (636B12) Monoclonal Antibody	CAC	PRPG-FBM-M01
Anti Biglycan (905A7) Monoclonal Antibody	CAC	PRPG-BG-M01
Anti XTP1 (2191H1) Monoclonal Antibody	CAC	PRPG-XTP-M01
Anti SDP35 (2200D12) Monoclonal Antibody	CAC	PRPG-SDP-M01
Anti Laminin α4 (652C4) Monoclonal Antibody	CAC	PRPG-LA4-M01
Anti Collagen 12 (378D5) Monoclonal Antibody	CAC	PRPG-CO12-M01

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The G1 amino-terminal domain of the *aggrecan* core protein has the same structural motif as link proteins and is responsible for the binding of the proteoglycan to hyaluronan and to the link proteins themselves. The G2 globular domain is homologous to the tandem repeats of G1 and of link proteins and is crucial for the synthesis and cellular secretion of *aggrecan*. The G3 globular domain is multi-modular and makes up the carboxyl terminus of the core protein. It is similarly responsible for the post-translational processing of the proteoglycan and its secretion and participates in the molecular interactions of *aggrecan* with other cartilage ECM components. Fully glycosylated/glycanated *aggrecan* of articular cartilage has typically an average size of 2,400-2,500 kDa, but its *Mr* may vary with age and the conditions of the cartilage tissue. *Aggrecans* of other cartilage tissues, sclera, tendon and bone may carry fewer chains (e.g. sclera *aggrecan* virtually lack keratan sulfate chains) and have smaller masses. The non-glycosylated/non-glycanated *aggrecan* core protein has an approximate *Mr* of 240-250 kDa.

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