SANTA CRUZ BIOTECHNOLOGY, INC.

aggrecan (D-20): sc-16492

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

The large chondroitin sulfate proteoglycan, aggrecan, is the predominant proteoglycan present in cartilage. Aggrecan is a member of the chondroitin sulphate proteoglycan family, which also includes versican/PG-M, neurocan and brevican. Aggrecan is a complex multidomain macromolecule that undergoes extensive processing and post-translational modification. In cartilage, aggrecan forms aggregates with hyaluronan and link protein, embedded in a collagen network. Aggrecan accounts for the compressive stiffness and resilience of the hyaline cartilage. Many forms of inflammatory arthritis are shown to be accompanied with aggrecan degradation and loss from the cartilage.

REFERENCES

1. Buzas, E.I., et al. 1996. Aggrecan: a target molecule of autoimmune reactions. Pathol. Oncol. Res. 2: 219-228.
2. Domowicz, M.S., et al. 2000. Role of the C-terminal G_3 domain in sorting and secretion of aggrecan core protein and ubiquitin-mediated degradation of accumulated mutant precursors. J. Biol. Chem. 275: 35098-35105.
3. Knudson, C.B. and Knudson, W. 2001. Cartilage proteoglycans. Semin. Cell Dev. Biol. 12: 69-78.
4. Chen, T.L., et al. 2001. Aggrecan domains expected to traffic through the exocytic pathway are misdirected to the nucleus. Exp. Cell Res. 263: 224-235.
5. Kiani, C., et al. 2001. Roles of aggrecan domains in biosynthesis, modification by glycosaminoglycans and product secretion. Biochem. J. 354: 199-207.
6. Brückner, G., et al. 2008. Aggrecan-based extracellular matrix is an integral part of the human basal ganglia circuit. Neuroscience 151: 489-504.

CHROMOSOMAL LOCATION

Genetic locus: ACAN (human) mapping to 15q26.1; Acan (mouse) mapping to 7 D3.

SOURCE

aggrecan (D-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of aggrecan of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-16492 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

aggrecan (D-20) is recommended for detection of aggrecan of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

aggrecan (D-20) is also recommended for detection of aggrecan in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for aggrecan siRNA (h): sc-41897, aggrecan siRNA (m): sc-41898, aggrecan shRNA Plasmid (h): sc-41897-SH, aggrecan shRNA Plasmid (m): sc-41898-SH, aggrecan shRNA (h) Lentiviral Particles: sc-41897-V and aggrecan shRNA (m) Lentiviral Particles: sc-41898-V.

Molecular Weight of aggrecan: 200 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yagüe, E., et al. 2007. Ability to acquire drug resistance arises early during the tumorigenesis process. Cancer Res. 67: 1130-1137.
2. Liu, Y., et al. 2012. One-step derivation of mesenchymal stem cell (MSC)-like cells from human pluripotent stem cells on a fibrillar collagen coating. PLoS ONE 7: e33225.
3. Simonaro, C.M., et al. 2013. Acid ceramidase maintains the chondrogenic phenotype of expanded primary chondrocytes and improves the chondrogenic differentiation of bone marrow-derived mesenchymal stem cells. PLoS ONE 8: e62715.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.