SANTA CRUZ BIOTECHNOLOGY, INC.

aggrecan (4F4): sc-33695

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.

CHROMOSOMAL LOCATION

Genetic locus: ACAN (human) mapping to 15q26.1.

SOURCE

aggrecan (4F4) is a mouse monoclonal antibody raised against human articular cartilage aggrecan.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

aggrecan (4F4) is available conjugated to agarose (sc-33695 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-33695 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-33695 PE), fluorescein (sc-33695 FITC), Alexa Fluor® 488 (sc-33695 AF488), Alexa Fluor® 546 (sc-33695 AF546), Alexa Fluor® 594 (sc-33695 AF594) or Alexa Fluor® 647 (sc-33695 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-33695 AF680) or Alexa Fluor® 790 (sc-33695 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

aggrecan (4F4) is recommended for detection of aggrecan of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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

Molecular Weight of aggrecan: 200 kDa.

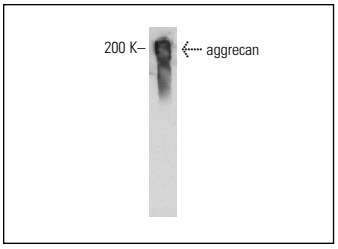
STORAGE

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

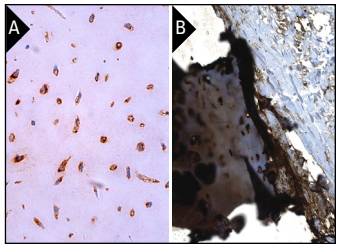
RESEARCH USE

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

DATA



aggrecan (4F4): sc-33695. Western blot analysis of aggrecan expression in human articular cartilage predigested with chondroitinase ABC, keratanase I and endo-β-galactosidase. Kindly provided by Dr. Roberto Perris, University of Parma, Italy.



aggrecan (4F4): sc-33695. Immunoperoxidase staining of formalin fixed, paraffin-embedded human cartilage tissue showing cytoplamsic staining of chondrocytes (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human soft tissue showing cytoplasmic staining in chondrocytes. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Henriksson, H.B., et al. 2009. Transplantation of human mesenchymal stems cells into intervertebral discs in a xenogeneic porcine model. Spine 34: 141-148.
2. Wilkins, A., et al. 2009. Human bone marrow-derived mesenchymal stem cells secrete brain-derived neurotrophic factor which promotes neuronal survival *in vitro*. Stem Cell Res. 3: 63-70.
3. Yilmaz, B.C., et al. 2010. Optimal transport time and conditions for cartilage tissue samples and expanded chondrocyte suspensions. Orthopedics 33: 25-29.
4. Mallam, E., et al. 2010. Characterization of *in vitro* expanded bone marrow-derived mesenchymal stem cells from patients with multiple sclerosis. Mult. Scler. 16: 909-918.
5. Kemp, K., et al. 2010. Chemotherapy-induced mesenchymal stem cell damage in patients with hematological malignancy. Ann. Hematol. 89: 701-713.
6. Kemp, K., et al. 2010. Inflammatory cytokine induced regulation of superoxide dismutase 3 expression by human mesenchymal stem cells. Stem Cell Rev. 6: 548-559.
7. Kemp, K., et al. 2011. Fusion between human mesenchymal stem cells and rodent cerebellar Purkinje cells. Neuropathol. Appl. Neurobiol. 37: 166-178.
8. Kemp, K., et al. 2011. Alkylating chemotherapeutic agents cyclophosphamide and melphalan cause functional injury to human bone marrow-derived mesenchymal stem cells. Ann. Hematol. 90: 777-789.

PROTOCOLS

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