abcam

Product datasheet

Anti-Asporin antibody ab154404

1 Abreviews 3 References 2 Images

Overview

Product name	Anti-Asporin antibody
Description	Rabbit polyclonal to Asporin
Host species	Rabbit
Tested applications	**Suitable for:** WB, ICC/IF
Species reactivity	**Reacts with:** Human
Immunogen	A synthetic peptide corresponding to a region within amino acids 129-221 of Human Asporin (Uniprot ID Q9BXN1). Run BLAST with ExPASy Run BLAST with NCBI
Positive control	A549, HeLa, HepG2 and HCT116 whole cell lysates. HeLa cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.00 Preservative: 0.01% Thimerosal (merthiolate) Constituents: 89.99% PBS, 10% Glycerol (glycerin, glycerine)
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab154404 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB	★☆☆☆☆ **(1)**	1/500 - 1/3000. Predicted molecular weight: 43 kDa.
ICC/IF		1/100 - 1/1000.

Target

Function

Negatively regulates periodontal ligament (PDL) differentiation and mineralization to ensure that the PDL is not ossified and to maintain homeostasis of the tooth-supporting system. Inhibits BMP2-induced cytodifferentiation of PDL cells by preventing its binding to BMPR1B/BMP type-1B receptor, resulting in inhibition of BMP-dependent activation of SMAD proteins (By similarity). Critical regulator of TGF-beta in articular cartilage and plays an essential role in cartilage homeostasis and osteoarthritis (OA) pathogenesis. Negatively regulates chondrogenesis in the articular cartilage by blocking the TGF-beta/receptor interaction on the cell surface and inhibiting the canonical TGF-beta/Smad signal. Binds calcium and plays a role in osteoblast-driven collagen biomineralization activity.

Tissue specificity

Higher levels in osteoarthritic articular cartilage, aorta, uterus. Moderate expression in small intestine, heart, liver, bladder, ovary, stomach, and in the adrenal, thyroid, and mammary glands. Low expression in trachea, bone marrow, and lung. Co-localizes with TGFB1 in chondrocytes within osteoarthritic (OA) lesions of articular cartilage.

Involvement in disease

Genetic variations in ASPN are associated with susceptibility to osteoarthritis type 3 (OS3) [MIM:607850]; also known as osteoarthritis of knee/hip. Osteoarthritis is a degenerative disease of the joints characterized by degradation of the hyaline articular cartilage and remodeling of the subchondral bone with sclerosis. Clinical symptoms include pain and joint stiffness often leading to significant disability and joint replacement. Note=Susceptibility to osteoarthritis is conferred by a triplet repeat expansion polymorphism. ASPN allele having 14 aspartic acid repeats in the N-terminal region of the protein (D14), is overrepresented relative to the common allele having 13 aspartic acid repeats (D13). The frequency of the D14 allele increases with disease severity. The D14 allele is also overrepresented in individuals with hip osteoarthritis.
Defects in ASPN are a cause of susceptibility to intervertebral disk disease (IDD) [MIM:603932]. A common musculo-skeletal disorder caused by degeneration of intervertebral disks of the lumbar spine. It results in low-back pain and unilateral leg pain. Note=Susceptibility to intervertebral disk disease, particularly lumbar disk degeneration, is conferred by a triplet repeat expansion polymorphism. ASPN allele having 14 aspartic acid repeats in the N-terminal region of the protein (D14), is associated with the disorder in some populations (PubMed:18304494).

Sequence similarities

Belongs to the small leucine-rich proteoglycan (SLRP) family. SLRP class I subfamily.
Contains 11 LRR (leucine-rich) repeats.
Contains 1 LRRNT domain.

Domain

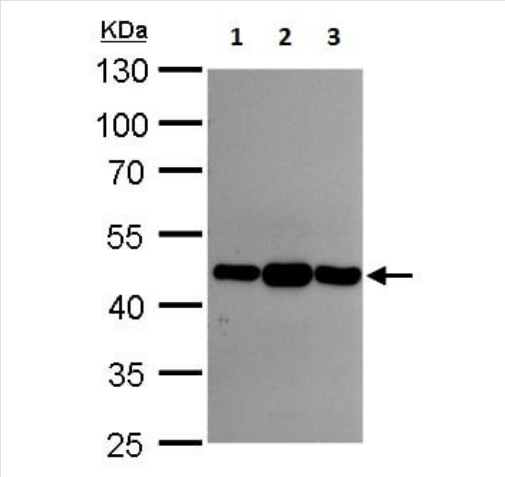
The LRR 5 repeat can inhibit BMP2-induced cytodifferentiation and may be involved in the interaction with BMP2 (By similarity). The repeats LRR 10, LRR 11 and LRR 12 are involved in binding type I collagen. The poly-Asp region is involved in binding calcium.

Post-translational modifications

There is no serine/glycine dipeptide sequence expected for the attachment of O-linked glycosaminoglycans and this is probably not a proteoglycan. The O-linked polysaccharide on 54-Ser is probably the mucin type linked to GalNAc.

	The N-linked glycan at Asn-282 is composed of variable structures of GlcNAc, mannose, fucose, HexNAc and hexose.
Cellular localization	Secreted > extracellular space > extracellular matrix.

Images



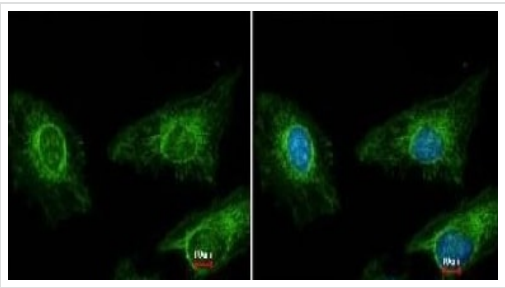
Western blot - Anti-Asporin antibody (ab154404)

All lanes : Anti-Asporin antibody (ab154404) at 1/1000 dilution

Lane 1 : A549 whole cell lysate/extract
Lane 2 : H1299 whole cell lysate/extract
Lane 3 : HCT116 whole cell lysate/extract

Lysates/proteins at 30 µg per lane.

Predicted band size: 43 kDa



Immunocytochemistry/ Immunofluorescence - Anti-Asporin antibody (ab154404)

Immunofluorescence analysis of methanol-fixed HeLa cells, labeling Asporin using ab154404 at 1/200 dilution. Right panel costained with Hoechst 33342.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours

- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors