abcam

ab269589

Anti-Heparan Sulfate Proteoglycan 2/Perlecan antibody [EPR22844-82] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22844-82
Purification technique	Affinity purification Protein A

Reactivity data

IP

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

Flow Cyt

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

Not recommended

Species	Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Human, Mouse, Rat
Dilution info	-
Notes	-

IHC-Fr

Not recommended

Species	Rat, Mouse, Human
Dilution info	-
Notes	-

Target data

See full target information Basement membrane-specific heparan sulfate proteoglycan core protein

Function

Integral component of basement membranes. Component of the glomerular basement membrane (GBM), responsible for the fixed negative electrostatic membrane charge, and which provides a barrier which is both size- and charge-selective. It serves as an attachment substrate for cells. Plays essential roles in vascularization. Critical for normal heart development and for regulating the vascular response to injury. Also required for avascular cartilage development (PubMed:12435733, PubMed:15591058, PubMed:19789387). In muscle, it is essential for localizing acetylcholinesterase (AChE) at the neuromuscular junctions (NMJ), most probably acting as an adapter that links the acetylcholinesterase collagenic tail peptide (COLQ) to alpha-dystroglycan, and is therefore involved in the down-regulation of colinergic synaptic transmission (By similarity). Endorepellin. Anti-angiogenic and anti-tumor peptide that inhibits endothelial cell migration, collagen-induced endothelial tube morphogenesis and blood vessel growth in the chorioallantoic membrane. Blocks endothelial cell adhesion to fibronectin and type I collagen. Anti-tumor agent in neovascularization. Interaction with its ligand, integrin alpha2/beta1, is required for the anti-angiogenic properties. Evokes a reduction in phosphorylation of receptor tyrosine kinases via alpha2/beta1 integrin-mediated activation of the tyrosine phosphatase, PTPN6. LG3 peptide. Has anti-angiogenic properties that require binding of calcium ions for full activity.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage conditions	+4°C

Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab269589 is the carrier-free version of ab255829.

Patented technology

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?

This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Heparan Sulfate Proteoglycan 2 also known as Perlecan is a large multidomain proteoglycan with a mass of over 500 kDa. It contains heparan sulfate chains that contribute to its role in the extracellular matrix. Perlecan is expressed in various tissues including cartilage basement membranes and vascular tissues. It interacts with other matrix proteins providing structural integrity and influencing cell behavior.
Biological function summary	Perlecan plays a critical role in cell adhesion proliferation and growth factor signaling. It is an important component of basement membranes and forms a structural complex with other matrix proteins. Its interaction with heparan sulfate chains enables binding with various ligands such as growth factors and cytokines

	optimizing their availability and functionality at the cell surface. This interaction is essential in tissue maintenance and repair processes.
Pathways	Perlecan participates in the regulation of the Wnt and Hedgehog signaling pathways. These pathways influence key developmental processes and dictate cellular differentiation and migration. Perlecan and its heparan sulfate chains modulate protein interactions within these pathways notably affecting proteins such as Dsh and Ctnnb1 which are essential in signal transduction.
Associated diseases and disorders	Perlecan involvement has been linked with tumorigenesis and cardiovascular diseases. Aberrations in its structure or expression can alter cellular microenvironments impacting key processes like angiogenesis and metastasis. Furthermore its interaction with growth factors can facilitate the progression of diseases like cancer highlighting its connection with proteins such as VEGF and TGF-beta which play major roles in disease modulation.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

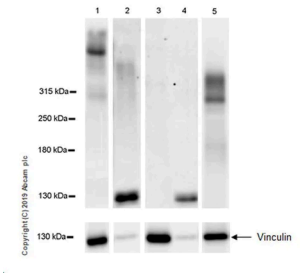
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

1 product image



Western blot - Anti-Heparan Sulfate Proteoglycan 2/Perlecan antibody [EPR22844-82] - BSA and Azide free (ab269589)

Blocking and dilution buffer: 5% NFDM/TBST.
Exposure times.

Lane 1:8 seconds; Lanes 2-5: 3 minutes.

The molecular weight observed is consistent with what has been described in the literature (PMID: 14627628, 12591930,23235151, 26636652).

Lower expression on SH-SY5Y (PMID:25883214).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab255829).

All lanes:
Western blot - Anti-Heparan Sulfate Proteoglycan 2/Perlecan antibody [EPR22844-82] (ab255829) at 1/1000 dilution

Lane 1:
HUVEC (human umbilical vein endothelial cell) whole cell lysate at 20 µg

Lane 2:
HUVEC culture supernatant at 10 µL

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
SH-SY5Y culture supernatant at 10 µL

Lane 5:
Human heart tissue lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/50000 dilution

Predicted band size: 469 kDa

Observed band size: 130 kDa, 469 kDa

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