abcam

ab227486

Anti-Annexin-2/ANXA2 antibody [EPR18157-104] - 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	EPR18157-104
Purification technique	Affinity purification Protein A
Concentration	1.064 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Mouse
Dilution info	-

Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

WB

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Rat
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	-
Notes	IHC is not recommended in human or rat due to nonspecific or negative staining.

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Rat
Dilution info	-
Notes	-

Target data

See full target information ANXA2

Function

Calcium-regulated membrane-binding protein whose affinity for calcium is greatly enhanced by anionic phospholipids. It binds two calcium ions with high affinity. May be involved in heat-stress response. Inhibits PCSK9-enhanced LDLR degradation, probably reduces PCSK9 protein levels via a translational mechanism but also competes with LDLR for binding with PCSK9 (PubMed:18799458, PubMed:22848640, PubMed:24808179). Binds to endosomes damaged by phagocytosis of particulate wear debris and participates in endosomal membrane stabilization, thereby limiting NLRP3 inflammasome activation (By similarity). Required for endothelial cell surface plasmin generation and may support fibrinolytic surveillance and neoangiogenesis (By similarity). (Microbial infection) Binds M.pneumoniae CARDS toxin, probably serves as one receptor for this pathogen. When ANXA2 is down-regulated by siRNA, less toxin binds to human cells and less vacuolization (a symptom of M.pneumoniae infection) is seen.

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

ab227486 is the carrier-free version of ab189473.

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	Annexin-2 also known as ANXA2 is a multifunctional protein of approximately 36 kDa. It belongs to the annexin family and is known for its strong calcium-dependent interactions with phospholipid membranes. Commonly expressed in endothelial cells it also appears in various tissues including epithelial cells and certain types of cancer cells. ANXA2 forms a heterotetramer complex with S100A10 also known as p11 which modulates its availability and function. Other names for ANXA2 include its gene designation M298 and its role in complexes often goes by ANXA2R.
Biological function summary	Annexin-2 acts beyond mere cellular structural support. It plays a part in fibrinolysis by acting as a co-receptor for plasminogen and tissue plasminogen activator promoting plasmin generation. The protein is also implicated in membrane trafficking signal transduction and organization of microdomains on cellular surfaces. As part of a complex with S100A10 ANXA2 can bind to cytoskeletal elements facilitating vesicle trafficking and influencing cell shape and motility. This complex assembly hints at ANXA2's importance in maintaining cellular dynamism and interplay with external signals.
Pathways	ANXA2 is integral in the regulation of the plasminogen activation pathway important for fibrinolytic activity. It also participates in the signal transduction pathways influencing cellular responses to stress and growth factors. ANXA2 interacts with various proteins like Src kinase and is involved in processes like the

	EGFR signaling pathway. This protein often crosstalks with the cytoskeletal network enabling the coupling of membrane dynamics with intracellular signaling cascades.
Associated diseases and disorders	Annexin-2's dysregulation associates with conditions such as cancer and thrombosis. In cancer overexpression of ANXA2 links with tumor progression invasion and metastasis acting synergistically with proteins like Src to promote oncogenic pathways. In thrombosis ANXA2's role in fibrinolysis becomes impaired contributing to excessive clot formation. Studies also indicate interactions with plasminogen-related proteins as being central to understanding its pathological roles in these diseases.

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

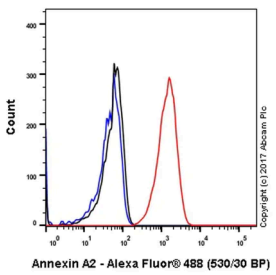
We do not recommend this combination. It is not covered by our product promise.

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.

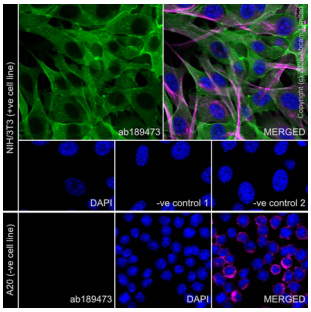
4 product images



Flow Cytometry (Intracellular) - Anti-Annexin-2/ANXA2 antibody [EPR18157-104] - BSA and Azide free (ab227486)

Annexin-2/ANXA2 Flow Cytometry (Intracellular) staining using rabbit Anti-Annexin-2/ANXA2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol-permeabilized HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling Annexin-2/ANXA2 with ab189473 at 1/500 dilution (red) compared with a Rabbit IgG, monoclonal [EPR25A] - Isotype Control (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab189473).



Immunocytochemistry/ Immunofluorescence - Anti-Annexin-2/ANXA2 antibody [EPR18157-104] - BSA and Azide free (ab227486)

Annexin-2/ANXA2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Annexin-2/ANXA2 antibody

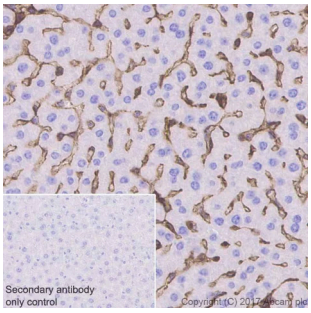
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab189473).

Immunofluorescent analysis of 100% methanol-fixed, 0.1% TritonX-100 permeabilized NIH/3T3 (mouse embryonic fibroblast)/A20 (mouse reticulum sarcoma B lymphocyte) cells labelling Annexin-2/ANXA2 with ab189473 at 1/5000 dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing membranous and cytoplasmic staining in NIH/3T3 cell line (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue).
Negative control: A20.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab7291 Anti-alpha Tubulin mouse monoclonal antibody was used to counterstain tubulin at 1/1000 dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



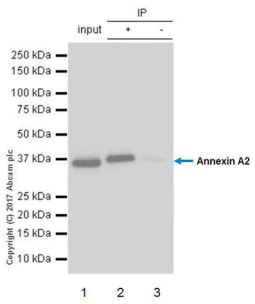
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Annexin-2/ANXA2 antibody [EPR18157-104] - BSA and Azide free (ab227486)

Annexin-2/ANXA2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Annexin-2/ANXA2 antibody

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling Annexin-2/ANXA2 with ab189473 at 1/5000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) Ready to use. Positive staining on the sinusoid of mouse liver (PMID: 23188673). Counter stained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) Ready to use.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab189473).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-Annexin-2/ANXA2 antibody [EPR18157-104] - BSA and Azide free (ab227486)

Annexin-2/ANXA2 was immunoprecipitated from 0.35 mg of NIH/3T3 (mouse embryo fibroblast cell line) whole cell lysate with ab189473 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab189473 at 1/2000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.
Lane 1: NIH/3T3 whole cell lysate 10 µg (Input).

Lane 2: ab189473 IP in NIH/3T3 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab189473 in NIH/3T3 whole cell lysate.

Exposure time: 1 second.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab189473).

All lanes:
Immunoprecipitation - Anti-Annexin-2/ANXA2 antibody [EPR18157-104] (ab189473)

Predicted band size: 38 kDa

Observed band size: 36 kDa

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