abcam

ab234099

Anti-Wnt3a antibody [EPR21889] - 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	EPR21889
Purification technique	Affinity purification Protein A
Specificity	Unsuitable for human IHC-P. Rat species is recommended based on IHC result. We do not guarantee western blot for rat.
Concentration	0.997 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

WB

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Rat
Dilution info	-
Notes	-

Not recommended

Species	Human
Dilution info	-
Notes	-

Target data

See full target information WNT3A

Function	Ligand for members of the frizzled family of seven transmembrane receptors (Probable). Functions in the canonical Wnt signaling pathway that results in activation of transcription factors of the TCF/LEF family (PubMed:20093360, PubMed:21244856, PubMed:24841207, PubMed:26902720). Required for normal

embryonic mesoderm development and formation of caudal somites. Required for normal morphogenesis of the developing neural tube (By similarity). Mediates self-renewal of the stem cells at the bottom on intestinal crypts (in vitro) (PubMed:26902720).

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

ab234099 is the carrier-free version of ab219412.

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	The Wnt3a protein also known as Wingless-related integration site 3a is a member of the Wnt family of proteins. It has a molecular mass of approximately 38 kDa. Wnt3a is a secreted glycoprotein that plays a mechanical role in cell signaling. It is expressed in various tissues including the neural tube somites and limb buds in the developing embryo. The protein functions by binding to Frizzled receptors on the cell surface initiating a signaling cascade that influences cellular behaviors.
Biological function summary	Wnt3a plays a critical role in embryonic development and cell proliferation. As part of a larger complex it partners with other signaling molecules to ensure proper cellular communication. Wnt3a is important in patterning during embryogenesis influencing processes like axis formation and organogenesis. Its expression impacts the development of skeletal structures by regulating the differentiation and proliferation of precursor cells.
Pathways	Wnt3a is an integral component of the canonical Wnt/β-catenin signaling pathway which regulates gene expression essential for cell fate decisions. This pathway is activated when Wnt3a binds to the Frizzled and LRP5/6 receptor complex stabilizing β-catenin in the cytosol. Glycogen synthase kinase 3 beta (GSK-3β) and Adenomatosis polyposis coli (APC) are key proteins involved which help mediate the signal to downstream targets involved in cell growth and development.
Associated diseases and disorders	Wnt3a has significant associations with cancer and bone developmental disorders. Dysregulation of the Wnt3a signaling pathway can lead to tumorigenesis due to unchecked cellular proliferation and survival. In cancer components like β-catenin become targets for therapeutic interventions. In bone disorders improperly regulated Wnt3a expression can result in conditions like osteoporosis where the balance between bone formation and resorption is disrupted. FGFR2 a protein involved in skeletal abnormalities often interacts with dysregulated Wnt3a signaling highlighting its importance in bone health.

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

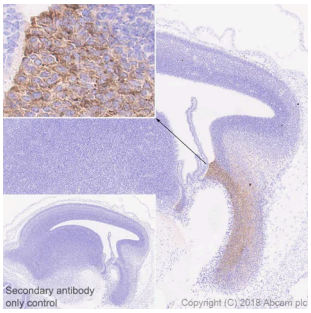
We do not recommend this combination. It is not covered by our product promise.

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.

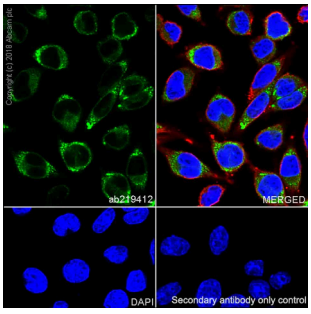
6 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wnt3a antibody

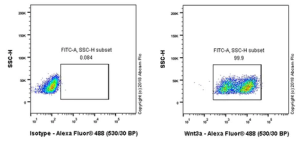
Immunohistochemical analysis of paraffin-embedded mouse E14.5 tissue labeling Wnt3a with ab219412 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining on the hem remnant of mouse E14.5 (PMID: 15509764; PMID: 16410414) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab219412).



Immunocytochemistry/ Immunofluorescence - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Wnt3a antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized L Wnt-3a (Wnt-3a stably transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) cells labeling Wnt3a with ab219412 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing cytoplasmic staining in L Wnt-3A cell line. The nuclear counter stain is DAPI (blue). Counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at a 1/200 dilution (red).
The negative control is the secondary antibody only.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab219412).



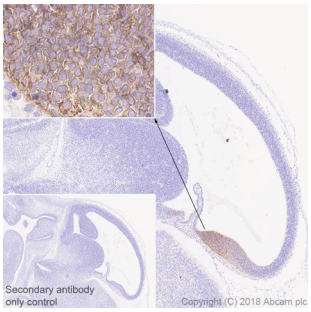
Flow Cytometry (Intracellular) - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a Flow Cytometry (Intracellular) staining using rabbit Anti-Wnt3a antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized L Wnt-3a (Wnt-3a stably transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) cell line (right) labeling Wnt3a with ab219412 at 1/500 compared with a Rabbit

monoclonal IgG (ab172730) (left). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.
Two Wnt3a-expressing populations can be seen labeled in this stably transfected cell line.

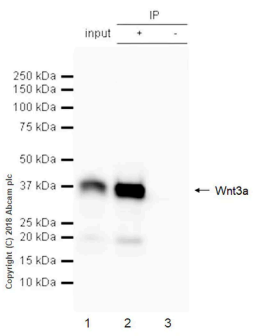
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab219412).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Wnt3a antibody

Immunohistochemical analysis of paraffin-embedded rat E14.5 tissue labeling Wnt3a with ab219412 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP).
Cytoplasmic staining on the hem remnant of rat E14.5 (PMID: 15509764; PMID: 16410414) is observed. Counter stained with Hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP).
Perform heat mediated antigen retrieval using ab93684 (Tris/EDTA buffer, pH 9.0).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab219412).



Immunoprecipitation - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a was immunoprecipitated from 0.35 mg L Wnt-3a (Wnt-3a stably-transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) whole cell lysate with ab219412 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab219412 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/5000 dilution.
Lane 1: L Wnt-3a (Wnt-3a stably-transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) whole cell lysate 10 µg (Input).
Lane 2: ab219412 IP in L Wnt-3A whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab219412 in L Wnt-3a whole cell lysate.
Blocking/Dilution buffer and concentration: 5% NFDM/TBST.
Exposure time: 10 seconds.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab219412).

All lanes:
Immunoprecipitation - Anti-Wnt3a antibody [EPR21889] (ab219412)

Predicted band size: 39 kDa

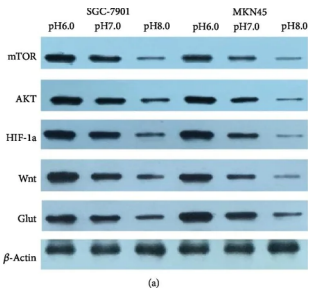


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Western blot - Anti-Wnt3a antibody [EPR21889] - BSA and Azide free (ab234099)

Wnt3a western blot using anti-Wnt3a antibody [EPR21889] - BSA and Azide free ab234099. Publication image and figure legend from Li, W., Zhou, Y., et al., 2020, Gastroenterol Res Pract, PubMed 32211041.

ab234099 was used in this publication in western blot. This may not be the same as the application(s) guaranteed by Abcam. For a full list of applications guaranteed by Abcam for ab234099 please see the product overview.

Alkaline microenvironment inhibited the expression of proteins (mTOR, AKT, HIF-1α, Wnt, and Glut). (a) Grayscale analysis of WB bands. (b) WB detected the expression of proteins (mTOR, AKT, HIF-1α, Wnt, and Glut) in GC cells (SGC-7901 and MKN45) at different pH values (pH 6.0, pH 7.0, and pH 8.0) after being cultured for 48 h.

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