abcam

ab219412

Anti-Wnt3a antibody [EPR21889]

Anti-Wnt3a antibody [EPR21889] (ab219412) is a rabbit monoclonal antibody detecting Wnt3a in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 50 publications

Recombinant | RabMAb | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
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	0.523 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Mouse
Dilution info	1/30
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Not recommended

Species	Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/500
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/500
Notes	This antibody is not suitable for human species in IHC-P application. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Species	Rat
Dilution info	1/500
Notes	This antibody is not suitable for human species in IHC-P application. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Not recommended

Species	Human
Dilution info	-
Notes	This antibody is not suitable for human species in IHC-P application. Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

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	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Wnt3a antibody [EPR21889] (ab219412) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

What is the molecular weight of Wnt3a?
Anti-Wnt3a [EPR21889] (ab219412) specifically detects a band for Wnt3a (UniProt: P56704) at a molecular weight of

39kDa.

Trusted by the scientific community
Anti-Wnt3a [EPR21889] (ab219412) was first used in a scientific publication in 2018 and has been cited over 50 times in peer-reviewed journals.

Other related products
We have a range of other formats of antibody clone [EPR21889] also available for your convenience: ab219412, Carrier free - ab234099, Alexa Fluor® 647 - ab270093, PE - ab305728, APC - ab305729, HRP - ab305730, Alkaline Phosphatase - ab308719, Alexa Fluor® 488 - ab309684, Alexa Fluor® 594 - ab310437, Alexa Fluor® 555 - ab311964, Alexa Fluor® 568 - ab312436, Alexa Fluor® 750 - ab321404

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.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

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/B-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 B-catenin in the cytosol. Glycogen synthase kinase 3 beta (GSK-3B) 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 B-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

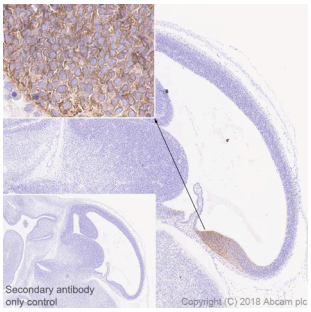
We do not recommend this combination. It is not covered by our product promise.

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.

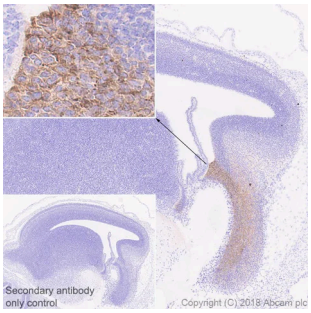
8 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wnt3a antibody [EPR21889] (ab219412)

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

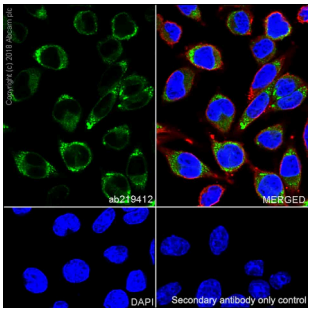
Immunohistochemical analysis of paraffin-embedded rat E14.5 tissue labeling Wnt3a with ab219412 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining on the hem remnant of rat E14.5 (PMID: 15509764; PMID: 16410414) is observed. Counter stained with Hematoxylin.
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).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Wnt3a antibody [EPR21889] (ab219412)

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

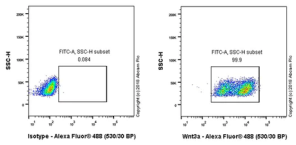
Immunohistochemical analysis of paraffin-embedded mouse E14.5 tissue labeling Wnt3a with ab219412 at 1/500 dilution, followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP). Cytoplasmic staining on the hem remnant of mouse E14.5 (PMID: 15509764; PMID: 16410414) is observed. Counter stained with Hematoxylin.
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).



Immunocytochemistry/ Immunofluorescence - Anti-Wnt3a antibody [EPR21889] (ab219412)

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.



Flow Cytometry (Intracellular) - Anti-Wnt3a antibody [EPR21889] (ab219412)

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

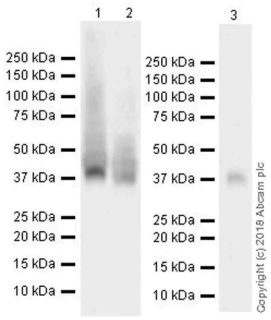
Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed, 90% methanol permeabilized L Wnt-3a (Wnt-3a stably transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) cell line (right)labeling Wnt3a with ab219412 at 1/500 compared with a Rabbit monoclonal IgG (ab172730) (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.



Immunoprecipitation - Anti-Wnt3a antibody [EPR21889] (ab219412)

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

Predicted band size: 39 kDa



Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412)

Wnt3a Western blot staining using rabbit Anti-Wnt3a antibody

Blocking/Dilution buffer and concentration: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412) at 1/1000 dilution

Lane 1:
Human fetal brain lysate at 10 µg

Lane 2:
Human fetal skin lysate at 10 µg

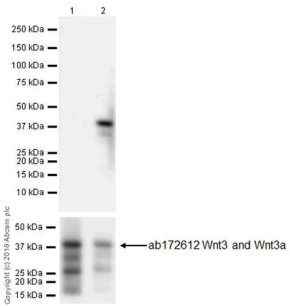
Lane 3:
HCT 116 (human colorectal carcinoma epithelial cell) whole cell lysate at 10 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 39 kDa

Exposure time: 3min



Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412)

Blocking/ Dilution buffer and concentration: 5% NFDM/TBST.
All lanes:
Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412) at 1/20000 dilution

Lane 1:
His-tagged human Wnt3 recombinant protein (aa22-355), 40 ng

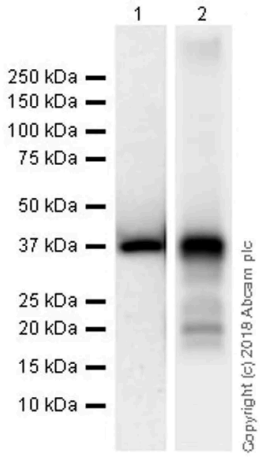
Lane 2:
His-tagged human Wnt3a recombinant protein (aa19-352), 20 ng

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 39 kDa

Exposure time: 3min



Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412)

Blocking/Dilution buffer and concentration: 5% NFDM/TBST.
Exposure times: Lane 1: 3 minutes; Lane 2: 3 seconds.

All lanes:
Western blot - Anti-Wnt3a antibody [EPR21889] (ab219412) at 1/1000 dilution

Lane 1:
L Wnt-3a (Wnt-3a stably transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) supernatant at 20 µL

Lane 2:
L Wnt-3a (Wnt-3a stably transfected mouse subcutaneous connective tissue areolar and adipose fibroblast) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 39 kDa

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