abcam

ab4147

Anti-NUMB antibody

Key facts

Isotype	IgG
Host species	Goat
Storage buffer	pH: 7.3 Preservative: 0.02% Sodium azide Constituents: Tris buffered saline, 0.5% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human NUMB aa 600-700. The exact immunogen used to generate this antibody is proprietary information. Database link P49757
Purification technique	Affinity purification Immunogen
Specificity	This antibody is expected to recognize all reported isoforms (NP_001005743.1, 001005744.1, NP_003735, NP_001005745.1). It is also likely to cross-react with Numblike (NUMBL, GeneID: 9253) which has a very similar C-Terminus, although this has not yet been tested experimentally.
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.

Reactivity data

Flow Cyt

Tested

Species	Human

Dilution info	-
Notes	-

Expected

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

Predicted

Species	Cow, Dog, Chicken
Dilution info	-
Notes	-

IP

Expected

Species	Mouse
Dilution info	-
Notes	For 1 hr on mouse brain lysate (see Abreview).

Species	Chicken
Dilution info	-
Notes	For 1 hr on mouse brain lysate (see Abreview).

Species	Human
Dilution info	-
Notes	For 1 hr on mouse brain lysate (see Abreview).

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

ELISA

Expected

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

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1-2 µg/mL
Notes	1 hour primary incubation at room temperature is recommended for this product.

Expected

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

Predicted

Species	Cow, Dog, Chicken
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	8 µg/mL
Notes	See Abreview.

Expected

Species	Mouse
Dilution info	-
Notes	See Abreview.

Species	Chicken
Dilution info	-
Notes	See Abreview.

Predicted

Species	Cow, Dog
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	10 µg/mL
Notes	-

Species	Human
Dilution info	10 µg/mL
Notes	-

Predicted

Species	Cow, Dog, Chicken
Dilution info	-

Notes	-

Target data

See full target information NUMB

Function	Regulates clathrin-mediated receptor endocytosis (PubMed:18657069). Plays a role in the process of neurogenesis (By similarity). Required throughout embryonic neurogenesis to maintain neural progenitor cells, also called radial glial cells (RGCs), by allowing their daughter cells to choose progenitor over neuronal cell fate (By similarity). Not required for the proliferation of neural progenitor cells before the onset of neurogenesis. Also involved postnatally in the subventricular zone (SVZ) neurogenesis by regulating SVZ neuroblasts survival and ependymal wall integrity (By similarity). May also mediate local repair of brain ventricular wall damage (By similarity).

Storage

Shipped at conditions	Blue Ice
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

This product may cross-react with Numblike (NUMBL, GeneID: 9253) Principal Names - NUMB; S171; numb homolog (Drosophila) Official Gene Symbol - NUMB GenBank Accession Number – NP_003735 LocusLink ID - 8650 (human); 18222 (mouse) Gene Ontology terms - integral to plasma membrane

Supplementary info

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

Activity summary	NUMB also known as numb protein is a cytoplasmic protein involved in cell fate determination. It has an approximate molecular mass of 75 kDa. NUMB plays a critical role in asymmetric cell division particularly during neural development. The protein is expressed in various tissues including the brain heart and liver but most prominently in neural tissues. NUMB influences the timing of differentiation and proliferation by interacting with several cellular components.
Biological function summary	NUMB proteins are important to regulating cell fate decisions. NUMB primarily functions as a part of a larger complex including proteins like Notch and Eps15. In neural stem cells NUMB acts as an inhibitor of the Notch signaling pathway. It also regulates endocytosis and the signaling pathways that contribute to maintaining cellular diversity during development. NUMB interactions influence processes like cell adhesion and migration which are essential for proper tissue formation.
Pathways	NUMB proteins play significant roles within the Notch and Hedgehog signaling pathways. These are critical pathways for developmental processes. In the Notch pathway NUMB negatively regulates Notch receptor activity preventing Notch-mediated gene expression. NUMB interacts with other proteins such as alpha-adaptin and LNX1 through these pathways helping regulate the endocytic trafficking of key signaling molecules. In the Hedgehog pathway NUMB affects signal transduction though its role is less defined compared to its involvement in the Notch pathway.
Associated diseases and disorders	NUMB proteins have been implicated in breast cancer and Alzheimer's disease. In breast cancer alterations in NUMB expression or function can contribute to tumor progression due to dysregulation of the Notch pathway. Its interaction with proteins like MDM2 influences the stability and activity of p53 an important tumor suppressor. In Alzheimer's disease NUMB's involvement in endocytic processes may impact amyloid precursor protein processing and beta-amyloid plaque formation which are central to the disease pathology.

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

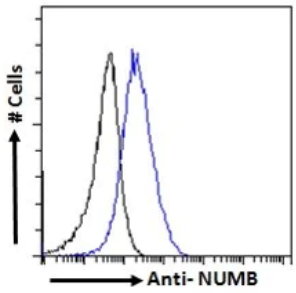
We do not recommend this combination. It is not covered by our product promise.

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.

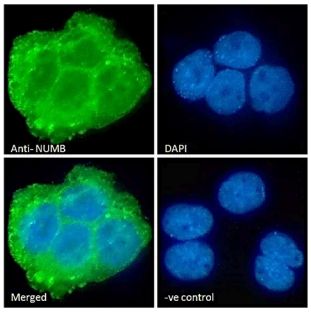
6 product images



Flow Cytometry - Anti-NUMB antibody (ab4147)

NUMB Flow Cytometry staining using goat Anti-NUMB antibody

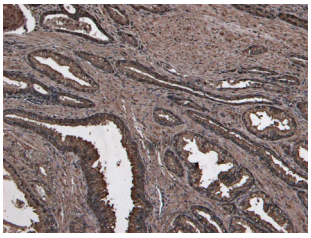
Flow cytometric analysis of paraformaldehyde fixed A549 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10µg/mL) followed by Alexa Fluor 488 secondary antibody (1µg/mL). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-NUMB antibody (ab4147)

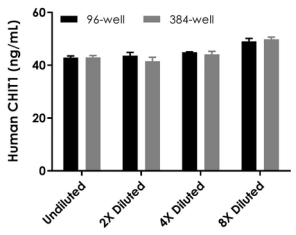
NUMB Immunocytochemistry/ Immunofluorescence staining using goat Anti-NUMB antibody

Immunofluorescence analysis of paraformaldehyde fixed A431 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 ug/ml) followed by Alexa Fluor 488 secondary antibody (2 ug/ml), showing cell junction and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 ug/ml) followed by Alexa Fluor 488 secondary antibody (2 ug/ml).



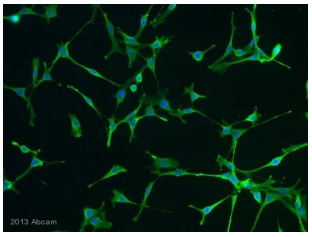
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-NUMB antibody (ab4147)

Immunohistochemistry staining of paraffin embedded Human Prostate labeling NUMB with ab4147 at (8µg/mL). Heat induced antigen retrieval with citrate buffer pH 6, HRP-staining.



Sandwich ELISA - Anti-NUMB antibody (ab4147)

Flow cytometric analysis of paraformaldehyde fixed A431 cells (blue line), permeabilized with 0.5% Triton. Primary incubation 1hr (10µg/mL) followed by Alexa Fluor 488 secondary antibody (1µg/mL). IgG control: Unimmunized goat IgG (black line) followed by Alexa Fluor 488 secondary antibody.

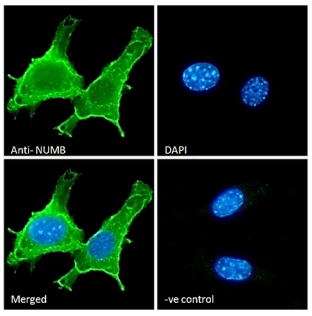


This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-NUMB antibody (ab4147)

NUMB Immunocytochemistry/ Immunofluorescence staining using goat Anti-NUMB antibody

ab4147 staining NUMB in the NIH3T3 cell line from Mouse fibroblasts by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde and blocked with 10% serum for 60 minutes at 24°C. Samples were incubated with primary antibody (1/100) for 16 hours at 4°C. An Alexa Fluor®488-conjugated Donkey anti-rabbit polyclonal(1/500) was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-NUMB antibody (ab4147)

NUMB Immunocytochemistry/ Immunofluorescence staining using goat Anti-NUMB antibody

Immunofluorescence analysis of paraformaldehyde fixed NIH3T3 cells, permeabilized with 0.15% Triton. Primary incubation 1hr (10 ug/ml) followed by Alexa Fluor 488 secondary antibody (2 ug/ml), showing plasma membrane and cytoplasmic staining. The nuclear stain is DAPI (blue). Negative control: Unimmunized goat IgG (10 ug/ml) followed by Alexa Fluor 488 secondary antibody (2 ug/ml).

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