

Product datasheet

Anti-KIF5A antibody ab5628

★★★★★ [3 Abreviews](#) [17 References](#) [3 Images](#)

Overview

Product name	Anti-KIF5A antibody
Description	Rabbit polyclonal to KIF5A
Host species	Rabbit
Specificity	This antibody is specific for KIF5A and does not detect other kinesin isoforms.
Tested applications	Suitable for: ICC/IF, WB, IP
Species reactivity	Reacts with: Mouse, Rat, Cow, Human
Immunogen	Synthetic peptide corresponding to Mouse KIF5A aa 1007-1027. Sequence: CGYEAEDQAKLFPLHQETAAS (Peptide available as ab41781)

 [Run BLAST with](#)

 [Run BLAST with](#)

General notes

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.05% Sodium azide Constituents: 0.1% BSA, 99% PBS
Purity	Immunogen affinity purified
Primary antibody notes	Kinesins are a superfamily of microtubule-associated motor proteins involved in a variety of cellular processes including membranous organelle transport and cell division. Kinesin has been found in a variety of organisms and cell types and is subject to spatial and temporal regulation.

These proteins have a modular structure including a conserved motor domain of approximately 350 amino acids, which is responsible for microtubule binding and ATP hydrolysis. In addition to the motor domain, subfamily members share common domain organization, exhibit sequence similarity, motility properties, and cellular functions outside of the motor domain. There are currently three known Kinesin 5 family members denoted as A, B, and C. Kinesin 5A and kinesin 5C appear to be exclusively neuronal, whereas kinesin 5B appears to be ubiquitous in its expression.

Clonality

Polyclonal

Isotype

IgG

Applications

The Abpromise guarantee

Our **Abpromise guarantee** covers the use of ab5628 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		Use a concentration of 1 - 5 µg/ml.
WB	★★★★★ (2)	Use a concentration of 0.5 - 2 µg/ml. Predicted molecular weight: 117 kDa.
IP	★★★★★ (1)	Use at an assay dependent concentration. PubMed: 20094756

Target

Function

Microtubule-dependent motor required for slow axonal transport of neurofilament proteins (NFH, NFM and NFL).

Tissue specificity

Distributed throughout the CNS but is highly enriched in subsets of neurons.

Involvement in disease

Defects in KIF5A are the cause of spastic paraplegia autosomal dominant type 10 (SPG10) [MIM:604187]. An inherited degenerative spinal cord disorder characterized by a slow, gradual, progressive weakness and spasticity (stiffness) of the legs. Rate of progression and the severity of symptoms is quite variable. Initial symptoms may include difficulty with balance, weakness and stiffness in the legs, muscle spasms, and dragging the toes when walking. In some forms of the disorder, bladder symptoms (such as incontinence) may appear, or the weakness and stiffness may spread to other parts of the body.

Sequence similarities

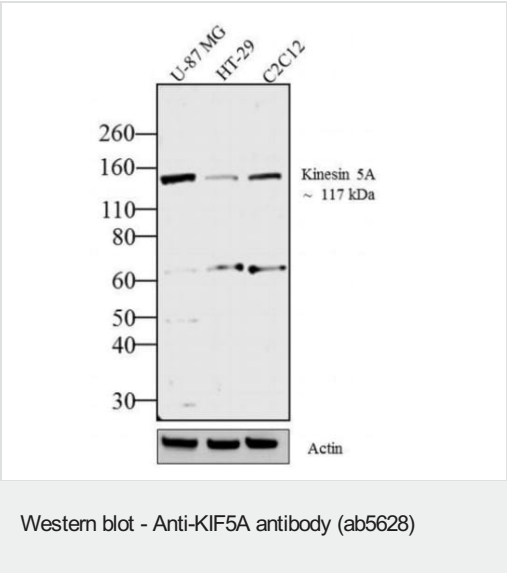
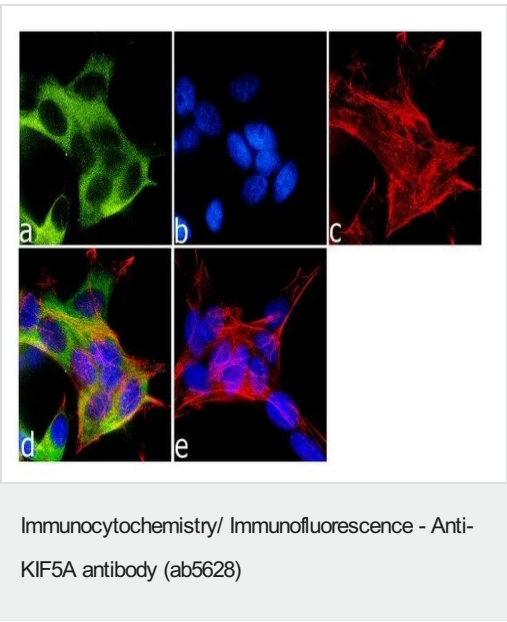
Belongs to the kinesin-like protein family. Kinesin subfamily.
Contains 1 kinesin-motor domain.

Domain

Composed of three structural domains: a large globular N-terminal domain which is responsible for the motor activity of kinesin (it hydrolyzes ATP and binds microtubule), a central alpha-helical coiled coil domain that mediates the heavy chain dimerization; and a small globular C-terminal domain which interacts with other proteins (such as the kinesin light chains), vesicles and membranous organelles.

Cellular localization

Cytoplasm > perinuclear region. Cytoplasm > cytoskeleton. Concentrated in the cell body of the neurons, particularly in the perinuclear region.



Immunofluorescence analysis of ADAMTS9 in Kinesin 5A cells using ab5628. The cells were fixed with 4% paraformaldehyde, permeabilized with 0.1% Triton™ X-100, and blocked with 1% BSA. The cells were labeled with ab5628 at 1 µg/mL in 0.1% BSA and incubated for 3 hours at room temperature followed by a Alexa Fluor® 488 Goat anti-Rabbit IgG (H+L) Secondary Antibody at 1/2000 dilution for 45 minutes at room temperature (Panel a: green). Nuclei (Panel b: blue) were stained with DAPI. F-actin (Panel c: red) was stained with Alexa Fluor® 555 Rhodamine Phalloidin at 1/300. (Panel d) represents the merged image showing cytoplasmic localization. (Panel e) shows the no primary antibody control. The images were captured at 60X magnification.

All lanes : Anti-KIF5A antibody (ab5628) at 2 µg/ml

Lane 1 : U-87 MG whole cell extracts

Lane 2 : HT-29 whole cell extracts

Lane 3 : C2C12 whole cell extracts

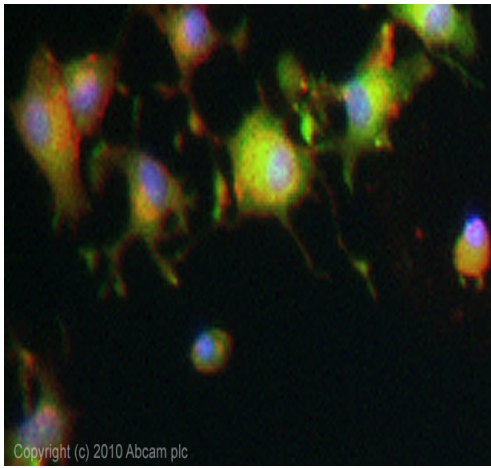
Lysates/proteins at 30 µg per lane.

Secondary

All lanes : Goat anti-Rabbit IgG (H+L) HRP conjugate at 1/2500 dilution

Predicted band size: 117 kDa

Blocking with 5 % skimmed milk



Immunocytochemistry/ Immunofluorescence - Anti-KIF5A antibody (ab5628)

ICC/IF image of ab5628 stained PC12 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab5628, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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