abcam

ab89908

Anti-DLK-1 antibody [MM0514-9D8]

Key facts

Isotype	IgG2b
Host species	Mouse
Storage buffer	Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human DLK1. The exact immunogen used to generate this antibody is proprietary information. Database link P80370
Carrier free	Yes
Clone number	MM0514-9D8
Purification technique	Affinity purification Protein G
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	The IgG fraction of culture supernatant was purified by Protein G affinity chromatography and 0.2 µm filtered.

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1 µg/mL

Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Flow Cyt

Tested

Species	Human
Dilution info	2 µg for 10^6 Cells
Notes	We recommend to fix with 4% formaldehyde for 10min at room temperature. ab170192 - Mouse monoclonal IgG2b, is suitable for use as an isotype control with this antibody.

ICC/IF

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Target data

See full target information DLK1

Function	May have a role in neuroendocrine differentiation.

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

Supplementary info

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

Activity summary	Delta-like 1 homolog (DLK-1) also known as Pref-1 (preadipocyte factor 1) is a protein involved in a wide range of cellular processes. The mass of DLK-1 is approximately 65 kDa. This protein is expressed in various tissues including the liver brain and endocrine glands. DLK-1 has an important role in the regulation of cell differentiation and growth acting as a signal molecule that influences tissue development and regeneration.
Biological function summary	DLK-1 serves a function in the inhibition of adipocyte differentiation and the maintenance of preadipocyte phenotype. It does not form part of a complex but interacts with membrane-bound receptors to mediate signaling pathways that impact tissue development. Researchers study its role in embryonic development and its downregulation is a significant factor during the differentiation of mesenchymal cells. Due to these interactions DLK-1 has a pivotal involvement in processes governing tissue regeneration and growth control.
Pathways	Better understanding of DLK-1 involves examining its interaction in the Notch signaling pathway. This important pathway related to cell fate decisions features pathways with other proteins like Notch-1 and Notch-3. The relationship helps modulate the fate and proliferation of cells. DLK-1 also has associations with pathways involving phosphoinositide 3-kinase (PI3K) which influences cell growth and survival through related proteins such as AKT.
Associated diseases and disorders	DLK-1 has shown associations with cancer and metabolic disorders. Overexpression of DLK-1 is linked to obesity due to its impact on preadipocyte differentiation. Additionally higher levels of DLK-1 can correlate with certain cancer progression where it acts alongside proteins like Notch-1 in promoting tumor cell growth. Understanding DLK-1's role in these contexts highlights the importance of DLK-1 as both a diagnostic marker and potential therapeutic target.

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

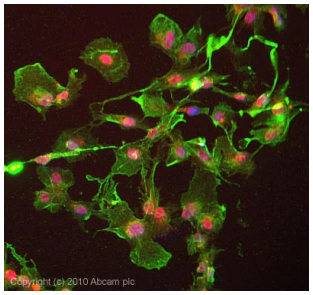
We do not recommend this combination. It is not covered by our product promise.

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.

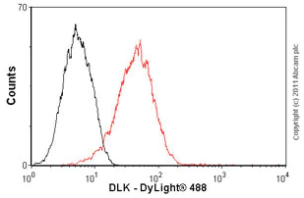
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-DLK-1 antibody [MM0514-9D8] (ab89908)

DLK-1 Immunocytochemistry/ Immunofluorescence staining using mouse Anti-DLK-1 antibody

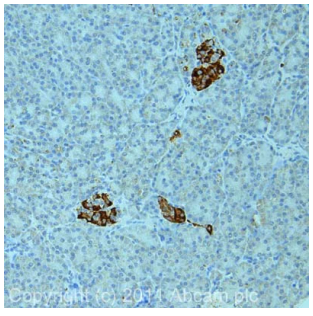
ICC/IF image of ab89908 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab89908, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse 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.



Flow Cytometry - Anti-DLK-1 antibody [MM0514-9D8] (ab89908)

DLK-1 Flow Cytometry staining using mouse Anti-DLK-1 antibody

Overlay histogram showing HepG2 cells stained with ab89908 (red line). The cells were fixed with 4% paraformaldehyde (10 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab89908, 2µg/1x10^6 cells) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG2b [PLPV219] (ab91366, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a positive signal in HepG2 cells fixed with 80% methanol (5 min) used under the same conditions.
Please note that Abcam do not have any data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-DLK-1 antibody [MM0514-9D8] (ab89908)

IHC image of ab89908 staining in human pancreas formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab89908, 1µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize

variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

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