abcam

ab245117

Anti-N-Cadherin/CD325 antibody [EPR22397-264]

Recombinant | RabMAb | KO Validated | 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	EPR22397-264
Purification technique	Affinity purification Protein A
Concentration	0.484 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

Target data

See full target information N-Cadherin/CD325

Function

Calcium-dependent cell adhesion protein; preferentially mediates homotypic cell-cell adhesion by dimerization with a CDH2 chain from another cell. Cadherins may thus contribute to the sorting of heterogeneous cell types. Acts as a regulator of neural stem cells quiescence by mediating anchorage of neural stem cells to ependymocytes in the adult subependymal zone: upon cleavage by MMP24, CDH2-mediated anchorage is affected, leading to modulate neural stem cell quiescence. Plays a role in cell-to-cell junction formation between pancreatic beta cells and neural crest stem (NCS) cells, promoting the formation of processes by NCS cells (By similarity). Required for proper neurite branching. Required for pre- and postsynaptic organization (By similarity). CDH2 may be involved in neuronal recognition mechanism. In hippocampal neurons, may regulate dendritic spine density. May promote axon outgrowth and motor fiber repair via DSP-mediated recruitment to outgrowth tips (By similarity).

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

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.

Supplementary info

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

Activity summary	N-Cadherin also known as CDH2 or neuronal cadherin is a calcium-dependent cell adhesion protein. It is characterized by its role in mediating intercellular connections primarily through its presence on neurons fibroblasts and certain epithelial cells. N-Cadherin has an approximate mass of 130 kDa. The protein is integral in forming homophilic interactions where N-Cadherin molecules on adjacent cells interact to establish robust cell-cell adhesion.
Biological function summary	N-Cadherin significantly influences cell-cell interaction and communication facilitating cellular adhesion and signal transduction. It is a vital component of adherens junctions contributing to tissue morphogenesis and stability. N-Cadherin interacts with other cytoplasmic proteins such as catenins forming a complex essential for linking the actin cytoskeleton to the cell membrane. This interaction affects cellular behaviors including migration and differentiation.
Pathways	N-Cadherin plays a significant role in the neural development and epithelial-to-mesenchymal transition (EMT) pathways important for development and cancer progression. It engages with related proteins such as beta-catenin which helps transduce signals within these pathways. N-Cadherin's interactions within these pathways highlight its role in maintaining multicellular structure and signaling processes important for development and pathogenesis.
Associated diseases and disorders	N-Cadherin is associated with cancer and heart disease. In cancer particularly in the context of the EMT N-Cadherin facilitates tumor progression and metastasis

cooperating with proteins like Twist and Snail to promote these processes. In heart disease alterations in N-Cadherin expression and function can impact cardiac muscle integrity and syncytium highlighting potential interactions with connexin43 to maintain cardiac function. Understanding these associations provides insights into therapeutic targets for these conditions.

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

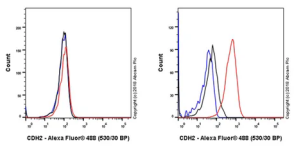
We do not recommend this combination. It is not covered by our product promise.

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

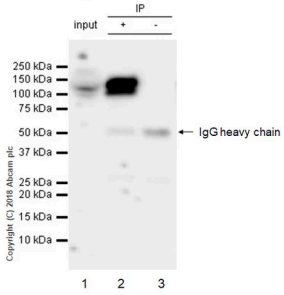


Flow Cytometry - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N-Cadherin/CD325 Flow Cytometry staining using rabbit Anti-N-Cadherin/CD325 antibody

Flow cytometric analysis of MCF7 (human breast adenocarcinoma epithelial cell line, Left) / HeLa (human cervix adenocarcinoma epithelial cell line, Right) cell lines labeling N Cadherin with ab245117 at 1/500 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.
Negative control: MCF7 (PMID: 9177902).

Gated on viable cells.



Immunoprecipitation - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N Cadherin was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell line) whole cell lysate with ab245117 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab245117 at 1/500 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/1000 dilution.
Lane 1: HeLa whole cell lysate 10 µg (Input).
Lane 2: ab245117 IP in HeLa whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab245117 in HeLa whole cell lysate.

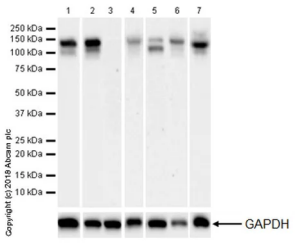
Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 3 seconds.

The molecular weight is consistent with literature (PMID: 8230319).

All lanes:
Immunoprecipitation - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

Predicted band size: 99 kDa

Observed band size: 110 kDa, 130 kDa



Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N-Cadherin/CD325 Western blot staining using rabbit Anti-N-Cadherin/CD325 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure times: Lanes 1-3: 26 seconds; Lanes 4-6: 3 minutes; Lane 7: 48 seconds.

The molecular weight is consistent with literature (PMID: 8230319).

Negative control: MCF7 (PMID: 9177902).

All lanes:
Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117) at 1/1000 dilution

Lane 1:
HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 20 µg

Lane 2:
HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate at 20 µg

Lane 3:
MCF7 (human breast adenocarcinoma cell line) whole cell lysate at 20 µg

Lane 4:
PC-3 (human prostate adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 5:
C6 (rat glial tumor glial cell) whole cell lysate at 10 µg

Lane 6:
A549 (human lung carcinoma cell line) whole cell lysate at 20 µg

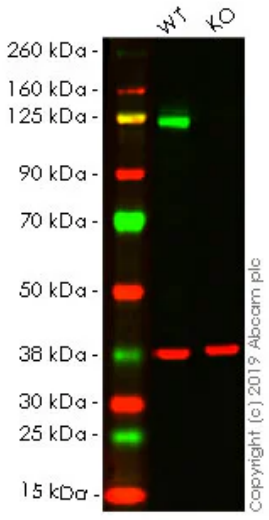
Lane 7:
Human brain lysate at 20 µg

Secondary

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

Predicted band size: 99 kDa

Observed band size: 110 kDa, 130 kDa



Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N-Cadherin/CD325 Western blot staining using rabbit Anti-N-Cadherin/CD325 antibody

Lanes 1-2: Merged signal (red and green). Green - ab245117 observed at 110, 130 kDa. Red - loading control, ab8245 observed at 37 kDa.
ab245117 was shown to react with N Cadherin in wild-type HEK-293T cells in Western blot. Loss of signal was observed when knockout sample ab263843 was used. Wild-type and N Cadherin knockout samples were subjected to SDS-PAGE. ab245117 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at 1 in 100000 dilution and 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117) at 1/1000 dilution

Lane 1:
Wild-type HEK-293T cell lysate at 20 µg

Lane 2:
CDH2 knockout HEK-293T cell lysate at 20 µg

Lane 2:
Western blot - Human CDH2 (N Cadherin) knockout HEK-293T cell line (ab255377)

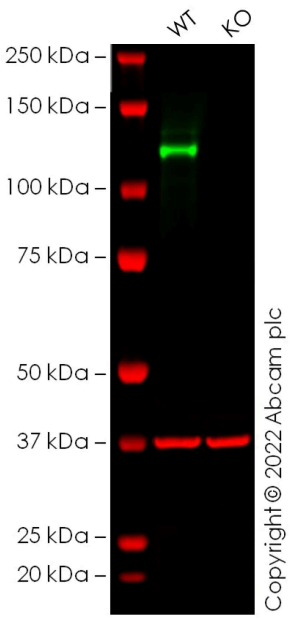
Secondary

All lanes:
Western blot - Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) at 1/20000 dilution

Performed under reducing conditions.

Predicted band size: 99 kDa

Observed band size: 125 kDa, 130 kDa



Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N-Cadherin/CD325 Western blot staining using rabbit Anti-N-Cadherin/CD325 antibody

False colour image of Western blot: Anti-N Cadherin antibody [EPR22397-264] staining at 1/1000 dilution, shown in green; Mouse anti-GAPDH antibody [6C5] (ab8245) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab245117 was shown to bind specifically to N Cadherin. A band was observed at 125 kDa in wild-type HeLa cell lysates with no signal observed at this size in cdh2 knockout cell line ab274934 (knockout cell lysate ab274992). To generate this image, wild-type and cdh2 knockout HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween® 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.
Lanes 1 - 2:
Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117) at 1/1000 dilution

Lanes 1 - 2:
Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] - BSA and Azide free (ab245827) at 1/1000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human CDH2 (N cadherin) knockout HeLa cell line (ab274934)

Lane 2:
Western blot - Human CDH2 (N Cadherin) knockout HeLa cell lysate (ab274992)

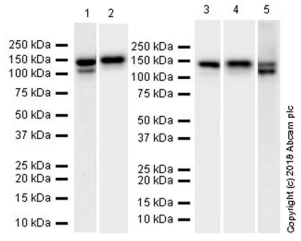
Lane 2:
cdh2 knockout HeLa cell lysate at 20 µg

Secondary

All lanes:
Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution

Performed under reducing conditions.

Observed band size: 125 kDa



Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117)

N-Cadherin/CD325 Western blot staining using rabbit Anti-N-Cadherin/CD325 antibody

Blocking/Dilution buffer: 5% NFDM/TBST.

Exposure times: Lane 1: 3 minutes; Lane 2: 26 seconds; Lane 3: 48 seconds; Lane 4: 10 seconds; Lane 5: 3 minutes.

The molecular weight is consistent with literature (PMID: 8230319).
All lanes:
Western blot - Anti-N-Cadherin/CD325 antibody [EPR22397-264] (ab245117) at 1/1000 dilution

Lane 1:
Mouse brain lysate at 10 µg

Lane 2:
Mouse heart lysate at 10 µg

Lane 3:
Rat brain lysate at 10 µg

Lane 4:
Rat heart lysate at 10 µg

Lane 5:
Rat liver lysate at 10 µg

Secondary

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

Predicted band size: 99 kDa

Observed band size: 110 kDa, 130 kDa

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