abcam

ab92514

Anti-delta 1 Catenin/CAS antibody [EPR357(2)]

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	EPR357(2)
Purification technique	Affinity purification Protein A
Specificity	The mouse recommendation is based on the WB results. We do not guarantee IHC-P for mouse.
Dissociation constant	7.4 x 10^{-11} M
Concentration	0.108 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse

Dilution info	1/1000 - 1/10000
Notes	-

Species	Human
Dilution info	1/1000 - 1/10000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/250
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/20
Notes	-

Expected

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

IHC-P

Tested

Species	Human
Dilution info	1/50
Notes	Antigen retrieval and the use of an HRP/AP polymerized secondary antibody is recommended for enhanced staining. **For unpurified use at 1/100 - 1/250.** The mouse recommendation is based on the WB results. We do not guarantee IHC-P for mouse.

Not recommended

Species	Mouse
Dilution info	-
Notes	-

Target data

See full target information CTNND1

Function	Key regulator of cell-cell adhesion that associates with and regulates the cell adhesion properties of both C-, E- and N-cadherins, being critical for their surface stability (PubMed:14610055, PubMed:20371349). Promotes localization and retention of DSG3 at cell-cell junctions, via its interaction with DSG3 (PubMed:18343367). Beside cell-cell adhesion, regulates gene transcription through several transcription factors including ZBTB33/Kaiso2 and GLIS2, and the activity of Rho family GTPases and downstream cytoskeletal dynamics (PubMed:10207085, PubMed:20371349). Implicated both in cell transformation by SRC and in ligand-induced receptor signaling through the EGF, PDGF, CSF-1 and ERBB2 receptors (PubMed:17344476).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Storage information	Stable for 12 months at -20°C

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	Delta 1 Catenin also known as CAS or δ-catenin is a member of the p120-catenin subfamily weighing around 122 kDa. It is predominantly expressed in the central nervous system where it localizes at the synapses. Apart from its neural distribution delta 1 Catenin also appears in epithelial tissues. This protein plays an important role in cell-cell adhesion by interacting with cadherins at the cytoplasmic side of the plasma membrane thereby facilitating the formation and maintenance of adherens junctions.
Biological function summary	Delta 1 Catenin participates in the regulation of synaptic stability and plasticity. As part of a protein complex it binds to the juxtamembrane domain of cadherins influencing actin cytoskeletal dynamics. Through this interaction delta 1 Catenin modulates signal transduction pathways that are essential for neuronal differentiation and synapse formation. In epithelial cells it is also involved in creating cell shapes and promoting tissue integrity.
Pathways	Delta 1 Catenin is essential in the Wnt signaling and Rho GTPase pathways. Within these pathways its interaction with E-cadherin and other catenins influences gene expression and cellular behaviors like migration and proliferation. The Wnt signaling pathway includes proteins such as β-catenin which works alongside delta 1 Catenin to regulate transcriptional activities pivotal for developmental processes and cancer progression.
Associated diseases and disorders	Delta 1 Catenin has associations with neurodegenerative diseases and certain cancers. In Alzheimer's disease alterations in delta 1 Catenin may disrupt synaptic connectivity contributing to cognitive decline. In cancer particularly prostate and colorectal its interaction with proteins like β-catenin potentially leads to changes in cell adhesion and metastasis. Such involvement makes delta 1 Catenin a significant target for therapeutic intervention.

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

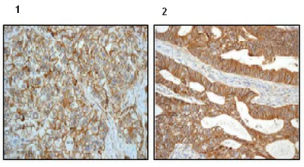
We do not recommend this combination. It is not covered by our product promise.

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.

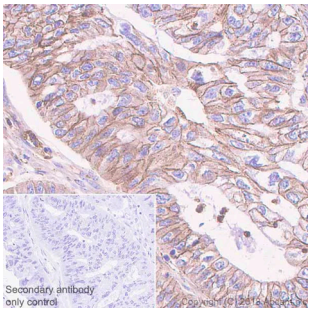
7 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

Delta 1 Catenin/CAS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-delta 1 Catenin/CAS antibody

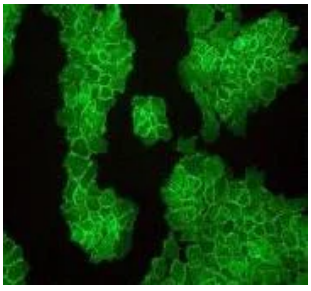
Paraffin embedded human breast carcinoma tissue (panel 1) and human colonic adenocarcinoma tissue (panel 2) labeled with unpurified ab92514 at 1/100 dilution.
Heat mediated antigen retrieval was performed with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

Delta 1 Catenin/CAS Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-delta 1 Catenin/CAS antibody

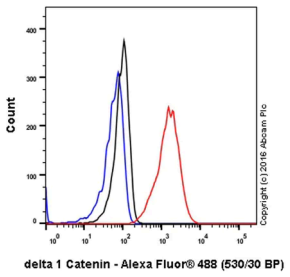
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human ovarian cancer tissue sections labeling delta 1 Catenin/CAS with purified ab92514 at 1:50 dilution (1.84 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer, pH 9.0). ImmunoHistoProbe one step HRP Polymer (ready to use) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.



Immunocytochemistry/ Immunofluorescence - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

Delta 1 Catenin/CAS Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-delta 1 Catenin/CAS antibody

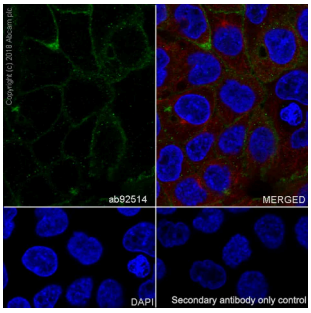
A431 (Human epidermoid carcinoma cell line) cells stained for delta 1 Catenin/CAS using unpurified ab92514 at a dilution of 1/100 in ICC/IF.



Flow Cytometry (Intracellular) - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

Delta 1 Catenin/CAS Flow Cytometry (Intracellular) staining using rabbit Anti-delta 1 Catenin/CAS antibody

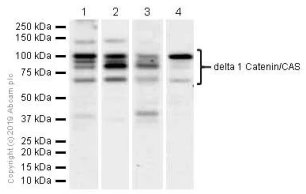
Intracellular Flow Cytometry analysis of A431 (human epidermoid carcinoma) cells labeling delta 1 Catenin/CAS with unpurified ab92514 at 1/20 dilution (10µg/ml) (Red). Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) (1/2000 dilution) was used as the secondary antibody. Rabbit monoclonal IgG (Black) was used as the isotype control, cells without incubation with primary antibody and secondary antibody (Blue) was used as the unlabeled control.



Immunocytochemistry/ Immunofluorescence - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

Delta 1 Catenin/CAS Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-delta 1 Catenin/CAS antibody

Immunocytochemistry/ Immunofluorescence analysis of A431 (Human epidermoid carcinoma epithelial cell) cells labeling delta 1 Catenin/CAS with purified ab92514 at 1:50 dilution (2.2 µg/ml). Cells were fixed in 4% Paraformaldehyde and permeabilized with 0.1% tritonX-100. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI (blue) was used as nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Western blot - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

The multiple bands are isoforms caused by alternatively splicing as was described in PMID 9653641 and are consistent with what has been descirbed in PMID 15077190.
All lanes:
Western blot - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514) at 1/1000 dilution

Lane 1:
HeLa (Human cervix adenocarcinoma epithelial cell) whole cell lysates at 15 µg

Lane 2:
HEK-293 (Human epithelial cell line from embryonic kidney) whole cell lysates at 15 µg

Lane 3:
RAW264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) whole cell lysates at 15 µg

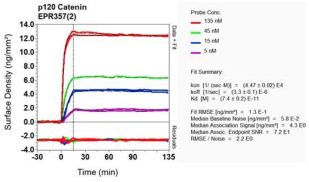
Lane 4:
C2C12 (Mouse myoblasts myoblast) whole cell lysates at 15 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 108 kDa

Observed band size: 70-120 kDa



OI-RD Scanning - Anti-delta 1 Catenin/CAS antibody [EPR357(2)] (ab92514)

We have systematically measured KD (the equilibrium dissociation constant between the antibody and its antigen), of more than 840 recombinant antibodies to assess not only their individual KD values but also to see the average affinity of antibody. Based on the comparison with published literature values for mouse monoclonal antibodies, Recombinant antibodies appear to be on average 1-2 order of magnitude higher affinity.

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