abcam

**ab51034**

# Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker

Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034) is a rabbit monoclonal antibody detecting pan Cadherin in **Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Biophysical QC for unrivalled batch-batch consistency
- Over 20 publications
- Trusted since 2007

Lab Essentials | 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** | EPR1792Y |
| **Purification technique** | Affinity purification Protein A |
| **Specificity** | The immunogen used for this product shares 100% homology with N-cadherin, 100% homology with R-cadherin, 93% homology to K-cadherin, 93% homology to P-cadherin, 93% homology to E-cadherin, and 73% homology to VE-cadherin. Cross-reactivities with these proteins have not been confirmed experimentally. |
| **Dissociation constant** | 6.1 x $10^{-10}$ M |
| **Concentration** | 0.149 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

# Reactivity data

## IHC-P

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/500 |
| **Notes** | **For unpurified use at 1/100.**<br>Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/500 |
| **Notes** | **For unpurified use at 1/100.**<br>Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/500 |
| **Notes** | **For unpurified use at 1/100.**<br>Perform heat-mediated antigen retrieval before commencing with IHC staining protocol. |

## IP

### Tested

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/20 |
| **Notes** | **For unpurified use at 1/40.** |

### Expected

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

## WB

### Tested

| | |
|---|---|
| **Species** | Mouse |
| **Dilution info** | 1/50000 |
| **Notes** | - |

| | |
|---|---|
| **Species** | Rat |
| **Dilution info** | 1/50000 |
| **Notes** | - |

### Expected

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

## ICC/IF

### Tested

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

### Expected

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

## Flow Cyt (Intra)

### Tested

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | 1/20 |
| **Notes** | For unpurified use at 1/30. ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody. |

### Expected

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

**What is this antibody validated in?**
Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Intra), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human, Mouse, Rat samples.

**What is the molecular weight of pan Cadherin?**
Anti-pan Cadherin [EPR1792Y] - Intercellular Junction Marker (ab51034) specifically detects a band for pan Cadherin (UniProt: P19022) at a molecular weight of 100kDa.

**Trusted by the scientific community**
Anti-pan Cadherin [EPR1792Y] - Intercellular Junction Marker (ab51034) was first used in a scientific publication in 2007 and has been cited over 20 times in peer-reviewed journals.

**Reviewed by scientists**
Anti-pan Cadherin [EPR1792Y] - Intercellular Junction Marker (ab51034) has over 5 independent reviews from customers.

**Other related products**
We have a range of other formats of antibody clone [EPR1792Y] also available for your convenience: ab51034, Alexa Fluor® 488 - ab195202, Alexa Fluor® 647 - ab195203, Carrier free - ab239839, PE - ab303080, APC - ab303081, HRP - ab303082, Alkaline Phosphatase - ab308963, Alexa Fluor® 594 - ab310734, Alexa Fluor® 555 - ab312264, Alexa Fluor® 568 - ab312753, Alexa Fluor® 750 - ab321637

**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.

**Trial sizes available!**
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

## Supplementary info

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

| | |
|---|---|
| **Activity summary** | Pan Cadherin also known as cadherin pan antibodies or anti pan cadherin is a protein family that mediates cell-cell adhesion in tissues. This protein group includes several members like E-cadherin and N-cadherin which are integral in |

| | |
|---|---|
| | maintaining the structural integrity of tissues. Pan Cadherin proteins weigh around 120 kDa and are widely expressed in various cell types including epithelial and neural tissues. They possess repetitive amino acid sequences and are calcium-dependent playing an important role in the mechanical linking of cells. |
| **Biological function summary** | Pan Cadherin proteins mediate adhesion through forming homophilic interactions. These proteins are components of adherens junctions which are important structures in cellular adhesion. Within these complexes cadherins interact with catenins to link the cytoskeleton to cell membrane proteins maintaining cell polarity and tissue architecture. The function of cadherins extends to signaling roles that influence cell behavior and differentiation emphasizing their role in cellular communication. |
| **Pathways** | Pan Cadherin proteins participate in significant signaling mechanisms such as the Wnt signaling and epithelial-mesenchymal transition (EMT) pathways. In the Wnt signaling pathway cadherins influence cell fate decisions while in EMT they drive the remodeling of cellular structures important for tissue development. N-Cadherin is closely associated with Pan Cadherin in these pathways collaborating to mediate cellular transformations and migrations essential for embryogenesis and wound healing processes. |
| **Associated diseases and disorders** | Pan Cadherin dysfunction correlates with cancer progression and metastasis. Aberrant cadherin expression contributes to the loss of cell adhesion promoting tumor invasion and metastasis. In particular disruptions in E-Cadherin frequently found in epithelial cancers highlight the critical role of Pan Cadherin in maintaining tissue homeostasis. Additionally N-Cadherin upregulation in various cancers illustrates its involvement in tumor aggressiveness further linking Pan Cadherin to pathogenesis. |

## 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**

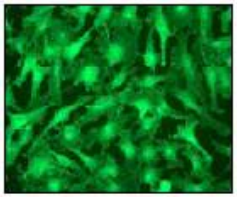
We do not recommend this combination. It is not covered by our product promise.

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.

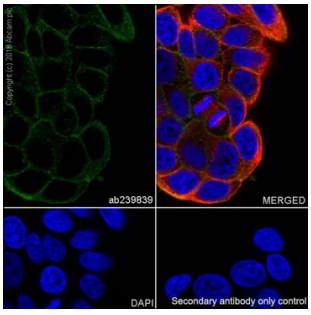
## 13 product images



### Immunocytochemistry/ Immunofluorescence - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-pan Cadherin antibody

Immunofluorescent staining of HeLa cells using ab51034 (1/100).

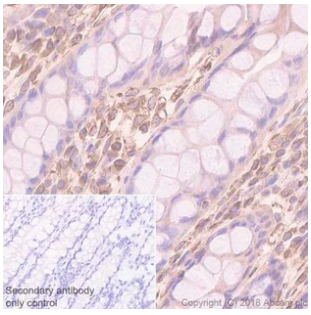



### Immunocytochemistry/ Immunofluorescence - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-pan Cadherin antibody

Immunocytochemistry/Immunofluorescence analysis of MCF7 (human breast adenocarcinoma epithelial cells labeling pan Cadherin with purified ab51034 at 1/250. Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% TritonX-100. ab150077, an Alexa Fluor® 488-conjugated goat anti-rabbit IgG (1/1000) was used as the secondary antibody. DAPI (blue) was used as the nuclear counterstain.
ab195889, Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 was used as counterstain antibody.

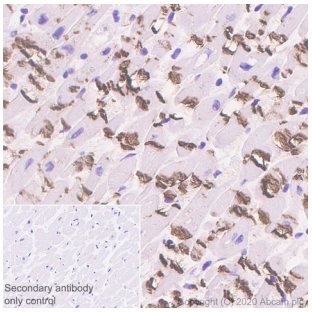
Confocal image showing membranous staining in MCF7 cells.




### Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

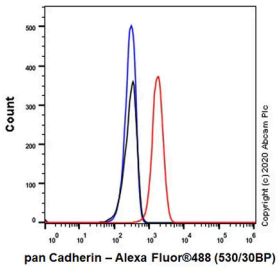
Immunohistochemical analysis of Paraffin-embedded human colon tissue sections labeling pan Cadherin with unpurified ab51034 at 1/100. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Positive staining on human colon.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

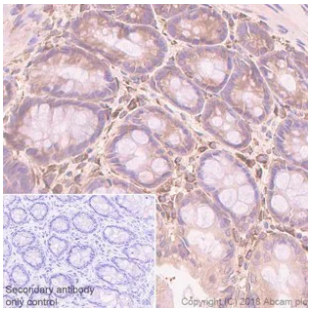
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human cardiac muscle tissue sections labeling pan Cadherin with purified ab51034 at 1/500 dilution (0.26 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Flow Cytometry (Intracellular) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Flow Cytometry (Intracellular) staining using rabbit Anti-pan Cadherin antibody

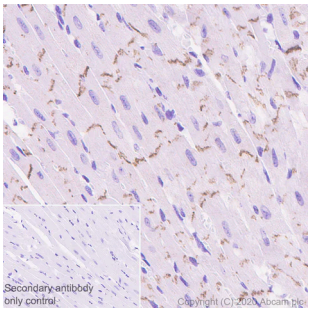
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling pan Cadherin with purified ab51034 at 1/20 dilution (10µg/mL) (Red). Cells were fixed with 4% Paraformaldehyde and permeabilised with 90% Methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488, ab150077) secondary antibody was used at 1/2000. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

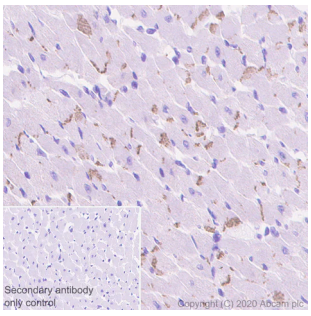
Immunohistochemical analysis of Paraffin-embedded rat colon tissue sections labeling pan Cadherin with unpurified ab51034 at 1/100. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Positive staining on rat colon.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

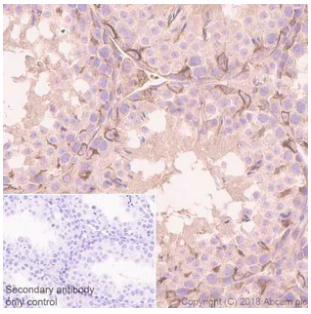
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse cardiac muscle tissue sections labeling pan Cadherin with purified ab51034 at 1/500 dilution (0.26 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

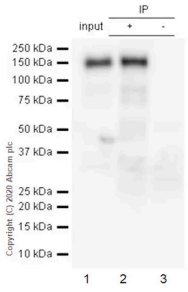
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat cardiac muscle tissue sections labeling pan Cadherin with purified ab51034 at 1/500 dilution (0.26 µg/mL). Heat mediated antigen retrieval using Bond™ Epitope Retrieval Solution 2 (pH 9.0). Rabbit specific IHC polymer detection kit HRP/DAB (ab209101) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. Hematoxylin was used as a counterstain.




## Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-pan Cadherin antibody

Immunohistochemical analysis of Paraffin-embedded mouse testis tissue sections labeling pan Cadherin with unpurified ab51034 at 1/100. Goat Anti-Rabbit IgG H&L (HRP) was used as the secondary antibody. Sections were counterstained with Hematoxylin. Antigen retrieval was heat mediated using ab93684 (Tris/EDTA buffer, pH 9.0).
Positive staining on mouse testis.




## Immunoprecipitation - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Purified ab51034 at 1/20 dilution (0.6 µg) immunoprecipitating pan Cadherin in Rat heart lysate.
Lane 1 (input): Rat heart lysate 10 µg
Lane 2 (+): ab51034 + Rat heart lysate.
Lane 3 (-): Rabbit monoclonal IgG (ab172730) instead of ab51034 in Rat heart lysate.
VeriBlot for IP Detection Reagent (HRP) (ab131366) (1/1000 dilution) was used for Western blotting.
Blocking Buffer and concentration: 5% NFDM/TBST.
Diluting buffer and concentration: 5% NFDM/TBST.
Observed band size: 140 kDa
All lanes:
Immunoprecipitation - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)




## Western blot - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Western blot staining using rabbit Anti-pan Cadherin antibody

All lanes:
Western blot - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034) at 1/50000 dilution

Lane 1:
C6 (Rat glial tumor glial cell) whole cell lysate at 20 µg

Lane 2:
Human brain lysate at 20 µg

Lane 3:
Mouse brain lysate at 20 µg

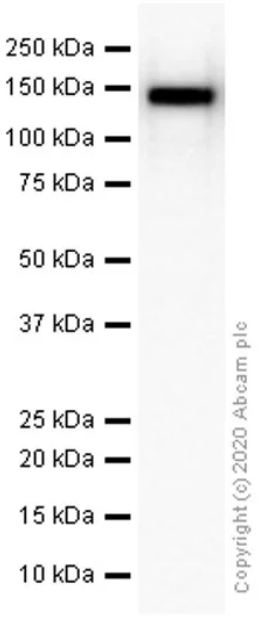
Lane 4:
Rat brain lysate at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 100 kDa

Observed band size: 140 kDa




## Western blot - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

Pan Cadherin Western blot staining of Mouse heart lysate using rabbit Anti-pan Cadherin antibody

All lanes:
Western blot - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034) at 1/50000 dilution

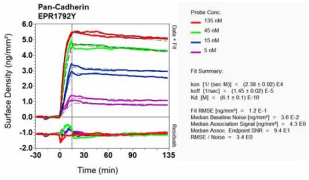
All lanes:
Mouse heart lysate at 15 µg

Secondary

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

Predicted band size: 100 kDa

Observed band size: 140 kDa




## OI-RD Scanning - Anti-pan Cadherin antibody [EPR1792Y] - Intercellular Junction Marker (ab51034)

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'.