abcam

ab194119

Alexa Fluor® 647 Anti-beta Catenin antibody [E247]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Conjugation	Alexa Fluor® 647
Excitation/Emission	Ex: 650nm, Em: 665nm
Storage buffer	pH: 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	E247
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	0.01 µg/mL
Notes	-

Predicted

Species	Mouse, Rat, Mouse, Rat
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/50 - 1/500
Notes	-

Predicted

Species	Mouse, Rat, Mouse, Rat
Dilution info	-
Notes	-

IHC-P

Expected

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

Target data

See full target information CTNNB1

Function	Key downstream component of the canonical Wnt signaling pathway (PubMed:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). In the absence of Wnt, forms a complex with AXIN1, AXIN2, APC, CSNK1A1 and GSK3B that promotes phosphorylation on N-terminal Ser and Thr residues and ubiquitination of CTNNB1 via BTRC and its subsequent degradation by the proteasome (PubMed:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). In the presence of Wnt ligand, CTNNB1 is not ubiquitinated and accumulates in the nucleus, where it acts as a coactivator for transcription factors of the TCF/LEF family, leading to activate Wnt responsive genes (PubMed:17524503, PubMed:18077326, PubMed:18086858, PubMed:18957423, PubMed:21262353, PubMed:22155184, PubMed:22647378, PubMed:22699938). Also acts as a coactivator for other transcription factors, such as NR5A2 (PubMed:22187462). Promotes epithelial to mesenchymal transition/mesenchymal to epithelial transition (EMT/MET) via driving transcription of CTNNB1/TCF-target genes (PubMed:29910125). Involved in the regulation of cell adhesion, as component of an E-cadherin:catenin adhesion complex (By similarity). Acts as a negative regulator of centrosome cohesion (PubMed:18086858). Involved in the CDK2/PTPN6/CTNNB1/CEACAM1 pathway of insulin internalization (PubMed:21262353). Blocks anoikis of malignant kidney and intestinal epithelial cells and promotes their anchorage-independent growth by down-regulating DAPK2 (PubMed:18957423). Disrupts PML function and PML-NB formation by inhibiting RANBP2-mediated sumoylation of PML (PubMed:22155184). Promotes neurogenesis by maintaining sympathetic neuroblasts within the cell cycle (By similarity). Involved in chondrocyte differentiation via interaction with SOX9: SOX9-binding competes with the binding sites of TCF/LEF within CTNNB1, thereby inhibiting the Wnt signaling (By similarity). Acts as a positive regulator of odontoblast differentiation during mesenchymal tooth germ formation, via promoting the transcription of differentiation factors such as LEF1, BMP2 and BMP4 (By similarity). Activity is repressed in a MSX1-mediated manner at the bell stage of mesenchymal tooth germ formation which prevents premature differentiation of odontoblasts (By similarity).

Storage

Shipped at conditions	Blue Ice
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, Store in the dark

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.

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Supplementary info

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

Activity summary	Beta Catenin also known by names such as CTNNB1 or beta-chip is an important protein involved in cell signaling and adhesion. This protein has a molecular weight of around 88 kDa. Beta Catenin is expressed in many cell types and tissues indicating its widespread role in various biological processes. It functions mechanically by mediating the linkage between cadherins and the actin cytoskeleton facilitating cell-cell adhesion. Beta Catenin is also a central part of transcription regulation processes in the nucleus.
Biological function summary	This protein plays roles in both cell adhesion and the regulation of gene expression. Beta Catenin is a critical component of the Wnt signaling pathway where it can form complexes with other proteins to influence gene transcription. In the absence of Wnt signaling beta Catenin levels are low due to its degradation. However when the pathway is active it accumulates in the cytoplasm and eventually translocates to the nucleus where it interacts with TCF/LEF transcription factors to regulate the expression of target genes.
Pathways	Beta Catenin plays a central role in the Wnt signaling pathway and influences cell fate decisions and cellular proliferation. It acts in concert with proteins such as Dishevelled (DVL) and Axin to coordinate these important biological processes. In the absence of Wnt signaling proteins such as APC and GSK-3β are responsible for beta Catenin degradation keeping its cellular levels in check. Beta Catenin's interaction with transcription factors in the nucleus makes it pivotal in the regulation of cell and tissue homeostasis.
Associated diseases and disorders	Beta Catenin has associations with colorectal cancer and hepatocellular carcinoma. Its dysregulation can lead to unchecked cell proliferation and tumorigenesis. Often mutations in the beta Catenin gene (CTNNB1) or components of the Wnt pathway like APC are implicated in the development of these cancers. Its interplay with E-

cadherin is important for maintaining tissue architecture and disruptions can lead to invasive cancer phenotypes. Understanding beta Catenin's role provides insights into therapeutic strategies for these cancers.

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

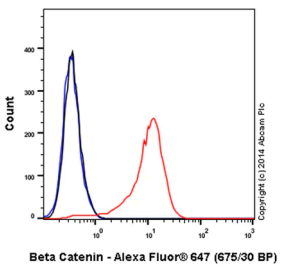
We do not recommend this combination. It is not covered by our product promise.

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.

5 product images



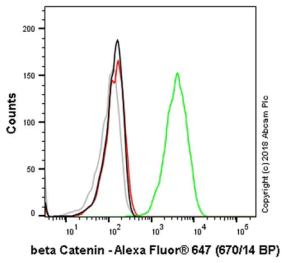
Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-beta Catenin antibody [E247] (ab194119)

Beta Catenin Flow Cytometry (Intracellular) staining using rabbit Anti-beta Catenin antibody

Overlay histogram showing SW480 cells stained with ab194119 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab194119, 1/500 dilution) for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) Alexa Fluor® 647 used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a solid-state 25mW red diode laser (635 nm) and 675/30 bandpass filter.

This antibody gave a positive signal in SW480 cells fixed with 80% methanol (5 min)/permeabilized with 0.1% PBS-Tween for 20 min used under the same conditions.



Flow Cytometry (Intracellular) - Alexa Fluor® 647 Anti-beta Catenin antibody [E247] (ab194119)

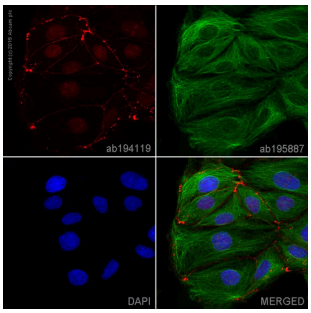
Beta Catenin Flow Cytometry (Intracellular) staining using rabbit Anti-beta Catenin antibody

Overlay histogram showing HAP1 wildtype (green line) and HAP1-CNNB1 knockout cells (red line) stained with ab194119. The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab194119, 0.01µg/ml) for 30 min at 22°C.

A mouse IgG1 isotype control antibody (ab199093) was used at the same concentration and conditions as the primary antibody (HAP1 wildtype - black line, HAP1-CNNB1 knockout - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5,000 events were collected using a 40 mW Red laser (640nm) and 670/14 bandpass filter.

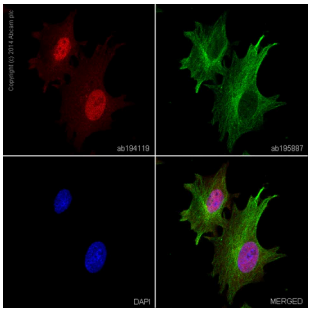
This antibody can also be used in HAP1 cells fixed with 4% formaldehyde (10 min) permeabilized with 0.1% PBS-Triton X-100 for 15 min under the same conditions.



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-beta Catenin antibody [E247] (ab194119)

Beta Catenin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta Catenin antibody

ab194119 staining beta Catenin in Caco-2 cells. The cells were fixed with 4% formaldehyde (10min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab194119 at 1/100 dilution (shown in red) and ab195887, Mouse monoclonal to alpha Tubulin (Alexa Fluor® 488), at 2µg/ml (shown in green). Nuclear DNA was labelled with DAPI (shown in blue).
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

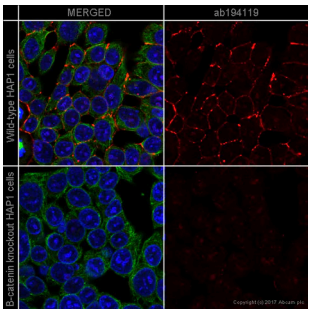


Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-beta Catenin antibody [E247] (ab194119)

Beta Catenin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta Catenin antibody

ab194119 staining beta Catenin in SW480 cells. The cells were fixed with 4% formaldehyde (10 min), permeabilised in 0.1% Triton X-100 for 5 minutes and then blocked in 1% BSA/10% normal goat serum/0.3M glycine in 0.1%PBS-Tween for 1h. The cells were then incubated with ab194119 at a working dilution of 1 in 50 (shown in red) and ab195887, Mouse monoclonal [DM1A] to alpha Tubulin (Alexa Fluor® 488, shown in green) at 2µg/ml overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.
This product gave a positive signal in 100% methanol (5 min) fixed SW480 cells under the same testing conditions.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 647 Anti-beta Catenin antibody [E247] (ab194119)

Beta Catenin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta Catenin antibody

ab194119 staining β-catenin in wild-type HAP1 cells (top panel) and β-catenin knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated with ab194119 at 1/500 dilution (shown in red) and ab195887 at 1/250 dilution (shown in green) overnight at +4°C. Nuclear DNA was labelled in blue with DAPI.
Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

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