abcam

ab227499

Anti-beta Catenin antibody - ChIP Grade

Lab Essentials

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7 Preservative: 0.025% Proclin 300 Constituents: PBS, 20% Glycerol (glycerin, glycerine), 1% BSA
Form	Liquid
Clonality	Polyclonal
Immunogen	Recombinant Fragment Protein within Human CTNNB1. The exact immunogen used to generate this antibody is proprietary information. Database link P35222
Purification technique	Affinity purification Immunogen
Concentration	0.14 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/50 - 1/100
Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/50 - 1/200

Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/500 - 1/20000
Notes	-

Species	Rat
Dilution info	1/500 - 1/20000
Notes	-

Species	Human
Dilution info	1/500 - 1/20000
Notes	-

Species	Zebrafish
Dilution info	1/500 - 1/20000
Notes	-

Species	Dog
Dilution info	1/500 - 1/20000

Notes	-

Species	Cat
Dilution info	1/500 - 1/20000
Notes	-

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

IHC-P

Tested

Species	Mouse
Dilution info	1/100 - 1/1000
Notes	-

Species	Rat
Dilution info	1/100 - 1/1000
Notes	-

Species	Human
Dilution info	1/100 - 1/1000
Notes	-

Species	Cat
Dilution info	1/100 - 1/1000
Notes	-

Expected

Species	Zebrafish, Dog
Dilution info	Use at an assay dependent concentration.

Notes	-

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100 - 1/1000
Notes	-

Species	Dog
Dilution info	1/100 - 1/1000
Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
Notes	-

IHC - Wmt

Tested

Species	Zebrafish

Dilution info	-
Notes	-

Expected

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

Predicted

Species	Sheep, Rabbit, Chicken, Cow, Pig, Xenopus laevis, Rhesus monkey
Dilution info	-
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

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

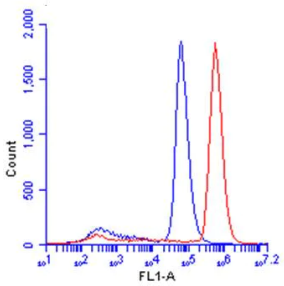
We do not recommend this combination. It is not covered by our product promise.

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.

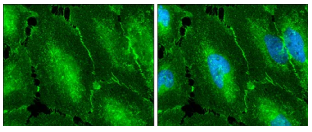
30 product images



Flow Cytometry - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Flow Cytometry staining using rabbit Anti-beta Catenin antibody

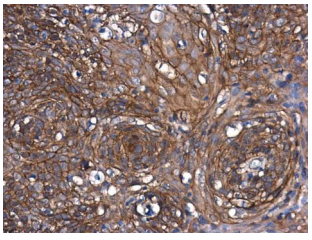
Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cell line labeling beta Catenin with ab227499 at 1/50 dilution (green) compared with an unlabeled sample used as a control (blue). A Dylight® 488-conjugated secondary antibody was used.



Immunocytochemistry/ Immunofluorescence - Anti-beta Catenin antibody - ChIP Grade (ab227499)

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

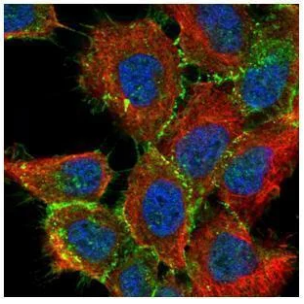
4% paraformaldehyde-fixed HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for beta Catenin (green) using ab227499 at 1/500 dilution in ICC/IF. Nuclear counterstain: Hoechst 33342 (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

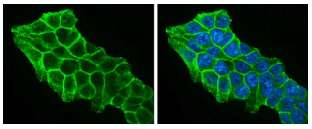
Paraffin-embedded human cervix tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunocytochemistry/ Immunofluorescence - Anti-beta Catenin antibody - ChIP Grade (ab227499)

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

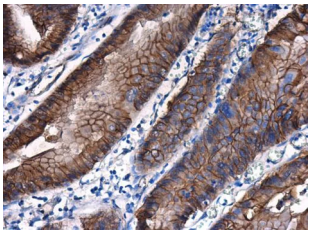
Paraformaldehyde-fixed A431 (human epidermoid carcinoma cell line) cells stained for beta Catenin (green) using ab227499 at 1/500 dilution in ICC/IF. Counterstain: Alpha-tubulin filaments were labeled with an anti-alpha tubulin antibody at 1/2000 dilution (red).



Immunocytochemistry/ Immunofluorescence - Anti-beta Catenin antibody - ChIP Grade (ab227499)

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

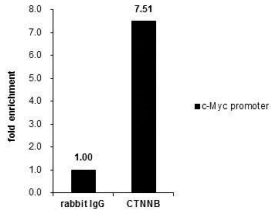
4% paraformaldehyde-fixed HCT 116 (human colorectal carcinoma cell line) cells stained for beta Catenin (green) using ab227499 at 1/500 dilution in ICC/IF. Nuclear counterstain: Hoechst 33342 (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

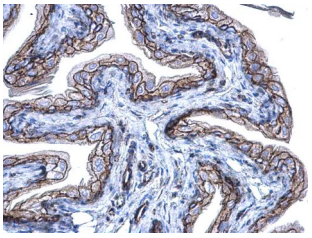
Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

Paraffin-embedded human esophagus tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



ChIP - Anti-beta Catenin antibody - ChIP Grade (ab227499)

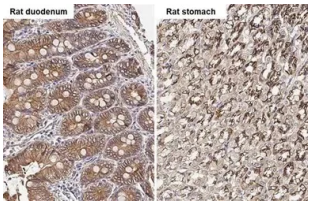
Cross-linked ChIP was performed with HCT 116 (human colorectal carcinoma cell line) chromatin extract and 5 µg of either control rabbit IgG or ab227499 antibody. The precipitated DNA was detected by PCR with primer set targeting to c-Myc promoter.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

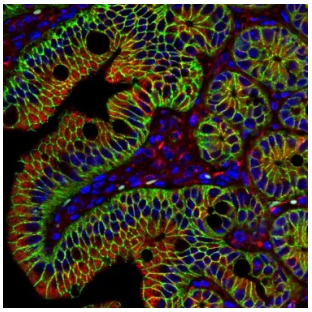
Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

Paraffin-embedded mouse urinary bladder tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

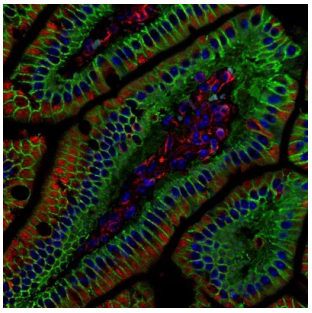
Paraffin-embedded rat tissue stained for beta Catenin protein with ab227499 at a 1/500 dilution in immunohistochemical analysis.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

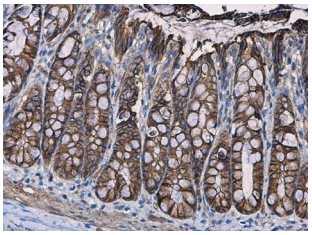
Paraffin-embedded mouse colon tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis. Counterstain: Alpha-tubulin was labeled with an anti-alpha tubulin antibody at 1/500 dilution. Nuclear counterstain: Hoechst 33342 (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

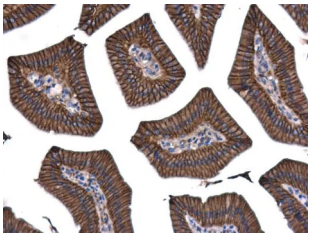
Paraffin-embedded mouse colon tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis. Counterstain: Alpha-tubulin was labeled with an anti-alpha tubulin antibody at 1/500 dilution. Nuclear counterstain: Hoechst 33342 (blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

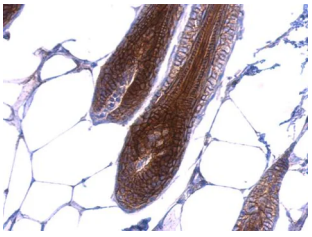
Paraffin-embedded rat colon tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

Paraffin-embedded mouse duodenum tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



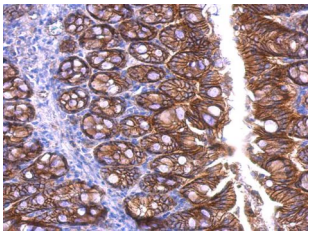
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Paraffin-embedded mouse skin tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

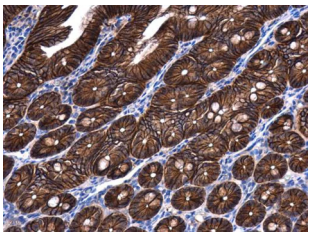
Paraffin-embedded mouse tissue stained for beta Catenin protein with ab227499 at a 1/500 dilution in immunohistochemical analysis.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

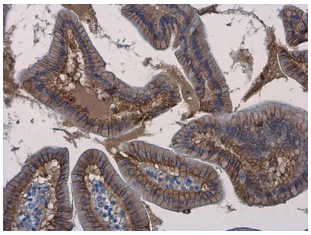
Paraffin-embedded mouse colon tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

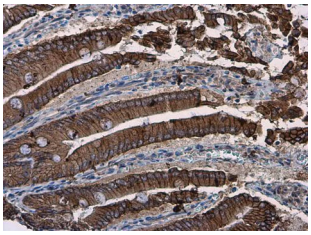
Paraffin-embedded mouse intestine tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

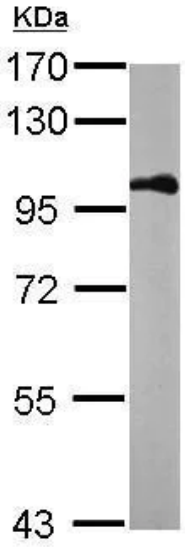
Paraffin-embedded mouse duodenum tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta Catenin antibody

Paraffin-embedded rat duodenum tissue stained for beta Catenin using ab227499 at 1/500 dilution in immunohistochemical analysis.



Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499)

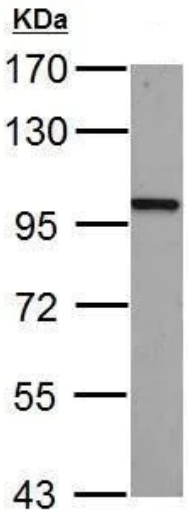
7.5% SDS-PAGE gel.
All lanes:
Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499) at 1/1000 dilution

All lanes:
Mouse brain lysate at 50 µg

Secondary

All lanes:
HRP-conjugated anti-rabbit IgG

Predicted band size: 85 kDa



Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499)

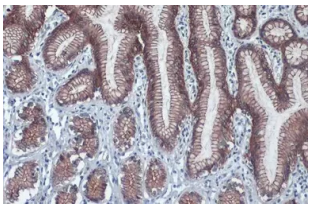
7.5% SDS-PAGE gel.
All lanes:
Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499) at 1/1000 dilution

All lanes:
PC-12 (rat adrenal gland pheochromocytoma cell line) whole cell lysate at 30 µg

Secondary

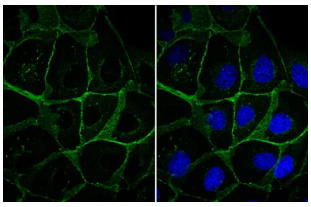
All lanes:
HRP-conjugated anti-rabbit IgG

Predicted band size: 85 kDa



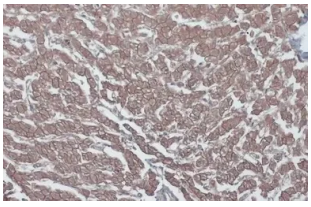
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Paraffin-embedded cat colon tissue stained for beta Catenin protein at cell membrane with ab227499 at a 1/500 dilution in immunohistochemical analysis.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



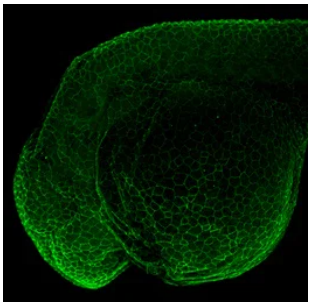
Immunocytochemistry/ Immunofluorescence - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Immunofluorescence analysis of 4% paraformaldehyde fixed MDCK cells labelling beta Catenin protein at cell membrane using ab227499 at a 1/1000 dilution at RT for 15 min (Green).



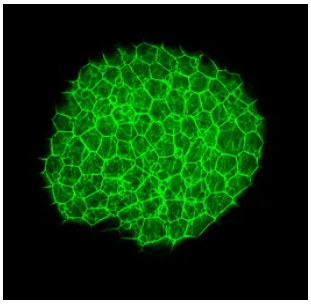
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Paraffin-embedded cat liver tissue stained for beta Catenin protein at cell membrane with ab227499 at a 1/500 dilution in immunohistochemical analysis.
Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.



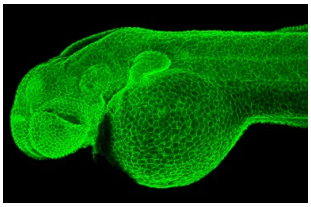
IHC - Wholemount - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Immunohistochemical analysis of whole mount 1 days-post-fertilization zebrafish embryo tissue labelling beta Catenin with ab227499 at a 1/100 dilution.



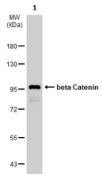
IHC - Wholemount - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Immunohistochemical analysis of whole mount 2 days-post-fertilization zebrafish embryo tissue labelling beta Catenin with ab227499 at a 1/100 dilution.



IHC - Wholemount - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Immunohistochemical analysis of whole mount 2 days-post-fertilization zebrafish embryo tissue labelling beta Catenin with ab227499 at a 1/100 dilution.



Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Western blot staining of PG-4 Whole cell extract using rabbit Anti-beta Catenin antibody

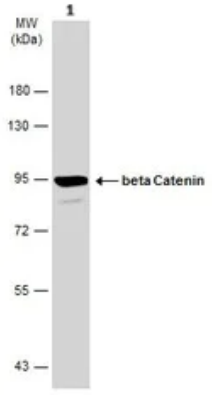
Samples were separated by 7.5% SDS-PAGE.
All lanes:
Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499) at 1/1000 dilution

All lanes:
PG-4 Whole cell extract at 30 µg

Secondary

All lanes:
HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 85 kDa



Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Western blot staining of MDCK Whole cell extract using rabbit Anti-beta Catenin antibody

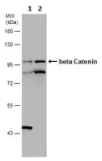
Samples were separated by 7.5% SDS-PAGE.
All lanes:
Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499) at 1/1000 dilution

All lanes:
MDCK Whole cell extract at 30 µg

Secondary

All lanes:
HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 85 kDa



Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499)

Beta Catenin Western blot staining using rabbit Anti-beta Catenin antibody

Samples were separated by 7.5% SDS-PAGE.
All lanes:
Western blot - Anti-beta Catenin antibody - ChIP Grade (ab227499) at 1/500 dilution

Lane 1:
Zebrafish eye at 30 µg

Lane 2:
Whole Zebrafish at 30 µg

Secondary

All lanes:
HRP-conjugated anti-rabbit IgG antibody

Predicted band size: 85 kDa

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