abcam

ab238454

Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR19591
Purification technique	Affinity purification Protein A
Concentration	1.001 - 1.029 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	-

Notes	-

Expected

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

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Expected

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

IHC-P

Tested

Species	Mouse, Human
Dilution info	-
Notes	-

Expected

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

Target data

See full target information TUBB3

Function Tubulin is the major constituent of microtubules, protein filaments consisting of alpha- and beta-tubulin heterodimers (PubMed:34996871, PubMed:38305685, PubMed:38609661). Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms (PubMed:34996871, PubMed:38305685, PubMed:38609661). Below the cap, alpha-beta tubulin heterodimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin (PubMed:34996871, PubMed:38609661). TUBB3 plays a critical role in proper axon guidance and maintenance (PubMed:20074521). Binding of NTN1/Netrin-1 to its receptor UNC5C might cause dissociation of UNC5C from polymerized TUBB3 in microtubules and thereby lead to increased microtubule dynamics and axon repulsion (PubMed:28483977). Plays a role in dorsal root ganglion axon projection towards the spinal cord (PubMed:28483977).

Storage

Shipped at conditions Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab238454 is the carrier-free version of ab215037.

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.

Conjugation ready

Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility

This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

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

Activity summary	Beta III tubulin often referred to as βIII tubulin or beta-tubulin 3 is a microtubule element involved in the cellular cytoskeleton structure. This protein with a molecular mass of approximately 55 kDa plays an important role in the development and maintenance of neuron structures. It is most prominently expressed in neurons within the central and peripheral nervous systems. In these cells beta III tubulin contributes to microtubule polymerization facilitating the formation of the intricate network necessary for cell shape intracellular transport and division.

Biological function summary	Beta III tubulin acts in stabilizing microtubules which are essential for proper neuronal function. It exists as part of the tubulin dimer complex partnering with alpha-tubulin to form the building blocks of microtubules. This particular isotype is often used as a marker for neuronal differentiation due to its specific expression pattern in neural tissues. Its regulation and expression levels are important for neurogenesis and maintaining neuronal plasticity.
Pathways	Beta III tubulin plays a role in neuron-specific intracellular transport and signaling pathways like the Rho GTPase and MAPK signaling pathways. These pathways are involved in cell cycle regulation and apoptotic processes. Relationships with other proteins such as kinesins and dyneins are important in these pathways influencing intracellular transport and signaling through binding and moving along the microtubule tracks created by beta-tubulin isotypes including beta III tubulin.
Associated diseases and disorders	Abnormal beta III tubulin expression has been associated with cancer particularly in tumors originating from neuronal lineage such as glioblastomas. Overexpression or mutations can contribute to chemoresistance complicating treatment for certain types of cancer. Beta III tubulin is also linked to neurodevelopmental disorders as it affects proper neural network formation and stability. Its relationship with tumor protein p53 is noted in cancer pathways as p53 can influence beta III tubulin expression impacting cellular proliferation and apoptosis in oncogenic processes.

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

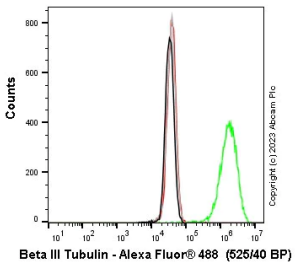
We do not recommend this combination. It is not covered by our product promise.

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.

15 product images



Flow Cytometry (Intracellular) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

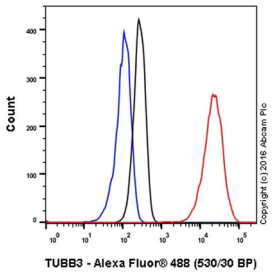
Flow cytometry overlay histogram showing wild-type Hap1 (green line) and TUB3 knockout Hap1 stained with ab215037 (red line). The cells were fixed with 4% formaldehyde (10 min) and then permeabilised with 0.1% PBS-Triton X-100 for 15 min. The cells were then incubated in 1x PBS containing 10% normal goat serum to block non-specific protein-protein interaction followed by the antibody (ab215037) (1x 106 in 100µl at 0.2 µg/ml (1/10400)) for 30min at 22°C.

The secondary antibody Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was incubated at 1/4000 for 30min at 22°C

Isotype control antibody Recombinant Rabbit IgG, monoclonal [EPR25A] - Isotype Control was used at the same concentration and conditions as the primary antibody (wild-type Hap1 - black line, TUB3 knockout Hap1 - grey line). Unlabelled sample was also used as a control (this line is not shown for the purpose of simplicity).

Acquisition of >5000 events were collected using a 50 mW Blue laser (488nm) and 525/40 bandpass filter.

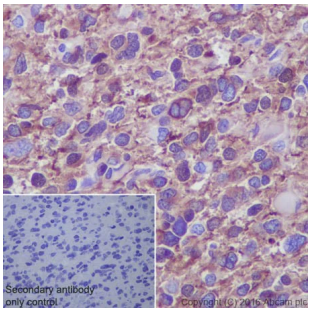
This antibody gave a positive signal in Hap1 Fixed with 80% methanol (5 min) / permeabilised with 0.1% PBS-Triton X-100 for 15 min under the same conditions.



Flow Cytometry (Intracellular) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

Intracellular flow cytometric analysis of 4% paraformaldehyde-fixed U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling beta III Tubulin with ab215037 at 1/200 dilution (red) compared with a rabbit monoclonal IgG isotype control (ab172730; black) and an unlabelled control (cells without incubation with primary antibody and secondary antibody; blue). Goat anti rabbit IgG (Alexa Fluor® 488) at 1/2000 dilution was used as the secondary antibody. This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

Immunohistochemical analysis of paraffin-embedded human glioma tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500

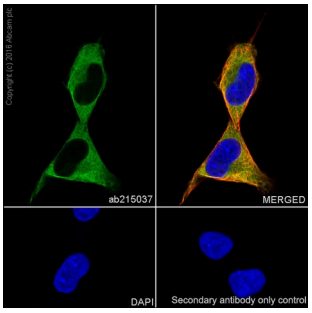
dilution.
Cytoplasmic staining on human glioma is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta III Tubulin antibody

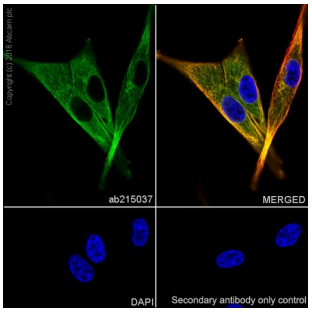
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized SH-SY5Y (Human neuroblastoma cell line from bone marrow) cells labeling beta III Tubulin with ab215037 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing cytoplasmic staining on SH-SY5Y cell line.

The nuclear counterstain is DAPI (blue).

Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-beta III Tubulin antibody

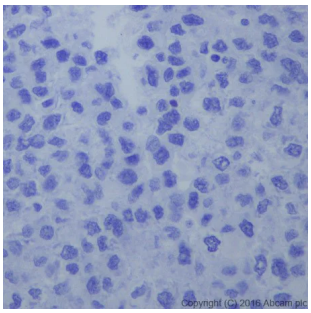
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) cells labeling beta III Tubulin with ab215037 at 1/500 dilution, followed by Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green).
Confocal image showing cytoplasmic staining on U-87 MG cell line.

The nuclear counterstain is DAPI (blue).

Tubulin is detected with ab195889 (Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594)) at 1/200 dilution (red).

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) at 1/1000 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

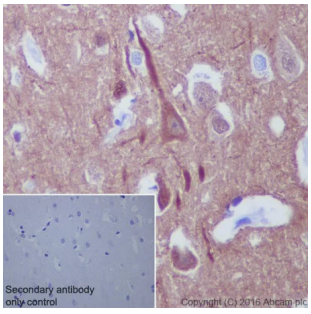
Beta III Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-beta III Tubulin antibody

Immunohistochemical analysis of paraffin-embedded human hepatocellular carcinoma tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Negative staining on human hepatocellular carcinoma. (PMID: 25039376).

Counter stained with Hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

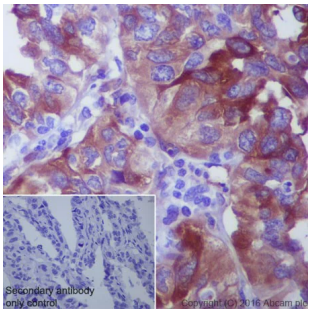
Immunohistochemical analysis of paraffin-embedded human cerebral cortex tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Cytoplasmic staining on human cerebral cortex is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

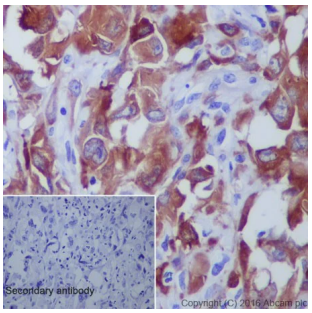
Immunohistochemical analysis of paraffin-embedded human lung adenocarcinoma tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Cytoplasmic staining on human lung adenocarcinoma is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

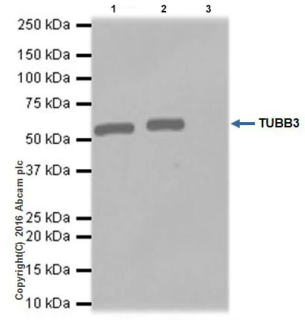
Immunohistochemical analysis of paraffin-embedded human cholangiocarcinoma tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Cytoplasmic staining on human cholangiocarcinoma is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

beta III Tubulin was immunoprecipitated from 0.35 mg of U-87 MG (Human glioblastoma-astrocytoma epithelial cell line) whole cell lysate with ab215037 at 1/30 dilution.
Western blot was performed from the immunoprecipitate using ab215037 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (ab131366), was used for detection at 1/10000 dilution.

Lane 1: U-87 MG whole cell lysate 10µg (Input).

Lane 2: ab215037 IP in U-87 MG whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab215037 in U-87 MG whole cell lysate.

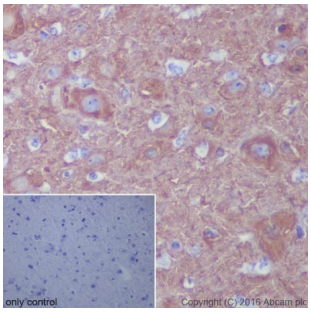
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 10 seconds.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).
All lanes:
Immunoprecipitation - Anti-beta III Tubulin antibody [EPR19591] - Neuronal Marker (ab215037)

Predicted band size: 50 kDa

Observed band size: 50 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

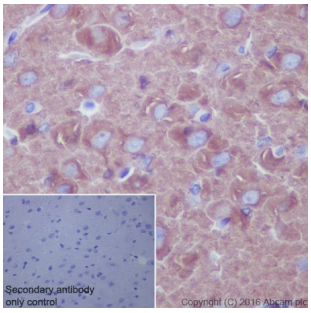
Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Cytoplasmic staining on mouse cerebral cortex is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

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

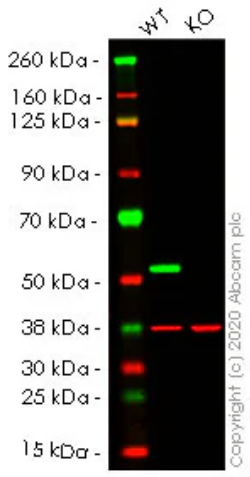
Immunohistochemical analysis of paraffin-embedded rat cerebral cortex tissue labeling beta III Tubulin with ab215037 at 1/2000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.
Cytoplasmic staining on rat cerebral cortex is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) at 1/500 dilution.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab215037).

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Western blot - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

Beta III Tubulin Western blot staining using rabbit Anti-beta III Tubulin antibody

This data was developed using the same antibody clone in a different buffer formulation (ab215037).
Lanes 1- 4: Merged signal (red and green). Green - ab215037 observed at 52 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab215037 was shown to react with beta III Tubulin in wild-type HCT116 cells in western blot. Loss of signal was observed when knockout cell line ab266900 (knockout cell lysate ab257070) was used. Wild-type HCT116 and TUBB3 knockout HCT116 cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab215037 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 2000 dilution and a 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-beta III Tubulin antibody [EPR19591] - Neuronal Marker (ab215037) at 1/2000 dilution

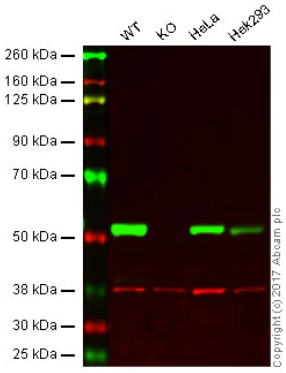
Lane 1:
Wild-type HCT116 cell lysate at 20 µg

Lane 2:
Western blot - Human TUBB3 (beta III Tubulin) knockout HCT116 cell lysate (ab257070) at 20 µg

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 52 kDa



Western blot - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

Beta III Tubulin Western blot staining using rabbit Anti-beta III Tubulin antibody

Lanes 1 - 4: Merged signal (red and green). Green - ab215037 observed at 50 kDa. Red - loading control, ab9484, observed at 37 kDa.
ab215037 was shown to specifically react with TUBB3 in wild-type HAP1 cells as signal was lost in TUBB3 knockout cells. Wild-type and TUBB3 knockout samples were subjected to SDS-PAGE. ab215037 and ab9484 (Mouse anti-GAPDH loading control) were incubated overnight at 4°C at a 1/2000 dilution and 1/20,000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preabsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye® 680RD) preabsorbed (ab216776) secondary antibodies at 1/20,000 dilution for 1 hour at room temperature before imaging.

This data was developed using the same antibody clone in a different buffer formulation containing tissue culture supernatant, tris glycine, BSA, glycerol and sodium azide (ab215037).

All lanes:
Western blot - Anti-beta III Tubulin antibody [EPR19591] - Neuronal Marker (ab215037) at 1/2000 dilution

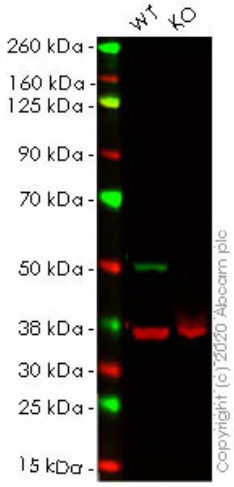
Lane 1:
Wild-type HAP1 whole cell lysate at 20 µg

Lane 2:
TUBB3 knockout HAP1 whole cell lysate at 20 µg

Lane 3:
HeLa whole cell lysate at 20 µg

Lane 4:
HEK293 whole cell lysate at 20 µg

Predicted band size: 50 kDa



Western blot - Anti-beta III Tubulin antibody [EPR19591] - BSA and Azide free (ab238454)

Beta III Tubulin Western blot staining using rabbit Anti-beta III Tubulin antibody

This data was developed using the same antibody clone in a different buffer formulation (ab215037).
Lanes 1- 2: Merged signal (red and green). Green - ab215037 observed at 50 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.

ab215037 was shown to react with beta III tubulin in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab255358 (knockout cell lysate ab263857) was used. Wild-type HeLa and TUBB3 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab215037 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 2000 dilution and a 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-beta III Tubulin antibody [EPR19591] - Neuronal Marker (ab215037) at 1/2000 dilution

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

Lane 2:
TUBB3 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human TUBB3 (beta III Tubulin) knockout HeLa cell lysate (ab263857) at 20 µg

Performed under reducing conditions.

Predicted band size: 50 kDa

Observed band size: 50 kDa

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