abcam

ab78078

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) is a mouse monoclonal antibody detecting beta III Tubulin in Western Blot, Flow Cytometry (Intra), IP, IHC-P, ICC/IF. Suitable for Human, Mouse, Rat. - KO validated for confirmed specificity - Over 320 publications - Trusted since 2009

Lab Essentials | Recombinant | KO Validated

Key facts

Isotype	IgG2a
Host species	Mouse
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	2G10
Purification technique	Affinity purification Protein A
Concentration	0.854 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human

Dilution info	1/1000
Notes	-

Expected

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

Predicted

Species	Dogfish, Common marmoset, Catshark, Rabbit, Chicken, Cow, Cat, Quail
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/5000
Notes	-

Species	Mouse
Dilution info	1/5000
Notes	-

Species	Rat
Dilution info	1/5000
Notes	-

Predicted

Species	Dogfish, Common marmoset, Catshark, Rabbit, Chicken, Cow, Cat, Quail
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Mouse
Dilution info	1/200
Notes	-

Species	Rat
Dilution info	1/200
Notes	-

Species	Human
Dilution info	1/200
Notes	-

Predicted

Species	Dogfish, Common marmoset, Catshark, Rabbit, Chicken, Cow, Cat, Quail
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

Predicted

Species	Dogfish, Common marmoset, Catshark, Rabbit, Chicken, Cow, Cat, Quail
Dilution info	-
Notes	-

IP

Tested

Species	Mouse
Dilution info	1/50
Notes	-

Expected

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

Predicted

Species	Dogfish, Common marmoset, Catshark, Rabbit, Chicken, Cow, Cat, Quail
Dilution info	-
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 (By similarity). Microtubules grow by the addition of GTP-tubulin dimers to the microtubule end, where a stabilizing cap forms (By similarity). Below the cap, alpha-beta tubulin heterodimers are in GDP-bound state, owing to GTPase activity of alpha-tubulin (By similarity). TUBB3 plays

a critical role in proper axon guidance and maintenance (By similarity). 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 (By similarity). Plays a role in dorsal root ganglion axon projection towards the spinal cord (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

Notes

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) is a mouse monoclonal antibody and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-P, IP and WB.

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) was first used in a scientific publication in 1990 and has been cited over 323 times in peer reviewed journals. It's performance in Western blot and IHC in human, mouse and rat samples is trusted by the scientific community.

Abcam's high quality validation processes ensure Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) has high sensitivity and specificity.

The specificity of Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) has been confirmed by WB testing in beta III Tubulin knockout HAP1 cells.

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) has 40 independent reviews from customers.

Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) specifically detects beta III Tubulin (UniProt ID: Q4QRB4; Molecular weight: 51kDa) and is sold in 100 ug selling sizes.

Conjugation-ready, carrier free format available for antibody clone 2G10 - ab264097.

Antibody clone 2G10 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, HRP (ab195879, ab19588, ab196638).

TUBB3, also known as beta-III tubulin, is a critical protein in neuro research, particularly for its role as a marker of

neuronal differentiation and axonal growth. It is predominantly expressed in neurons and is essential for proper microtubule function and stability. Researchers use TUBB3 to study neuronal development, neurogenesis and the structural integrity of neurons, making it vital for understanding various neurodevelopmental and neurodegenerative conditions.

The production method for this product has been switched from hybridoma to recombinant on 7th Sept 2026

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

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	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

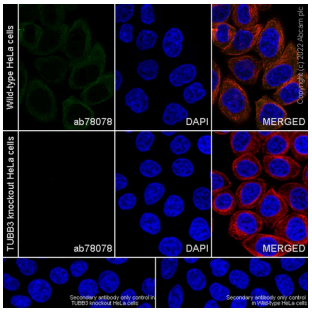
We do not recommend this combination. It is not covered by our product promise.

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.

33 product images



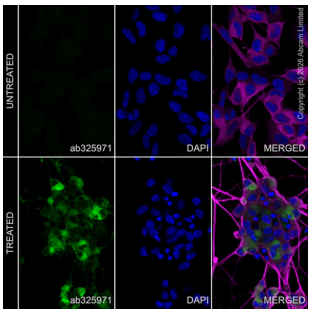
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized TUBB3 KO HeLa (ab255358) / wild-type HeLa cells labelling beta III Tubulin with ab78078 at 1/200 dilution followed by a secondary antibody ab150117 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in parental HeLa cell line, and no staining in TUBB3 HeLa KO cell line. Image was taken with a confocal microscope(Leica-Microsystems, TCS SP8). The counterstain was observed in red. Nuclear DNA was labelled with DAPI (shown in blue).

ab206369 Anti-beta Tubulin rabbit monoclonal antibody (Alexa Fluor® 594) was used to counterstain beta Tubulin at 1/100 dilution (Red). The Nuclear counterstain was DAPI (Blue).



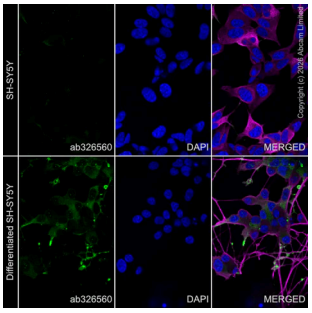
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Differentiated SH-SY5Y using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) and Differentiated SH-SY5Y cells labelling KCNQ2 with ab325971 at 1/50 (10.26 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in differentiated SH-SY5Y cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/1000 dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).



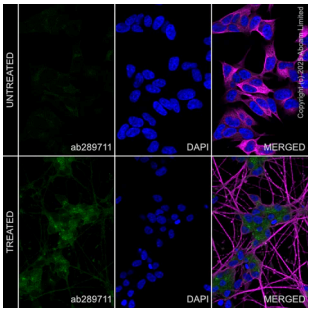
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Differentiated SH-SY5Y using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) and Differentiated SH-SY5Y cells labelling JIP3 with ab326560 at 1/100 (5.12 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing increased cytoplasmic staining in differentiated SH-SY5Y cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

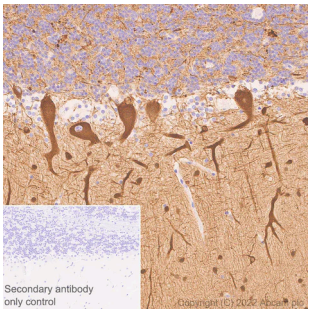


Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunofluorescent analysis of 4% Paraformaldehyde fixed 0.1% Triton X-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) Differentiated SH-SY5Y labelling DNAJC6 with ab289711 at 1/200 (2.275 µg/ml) followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody as secondary at 1/1000 (2 µg/ml) dilution. ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used as a primary target counterstain used at 1/200 (2.5 µg/ml) along with ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) used at 1/1000 (2µg/ml) as secondary.
Confocal image showing increased cytoplasmic staining in differentiated SH-SY5Y cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in

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



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Human cerebellum using mouse Anti-beta III Tubulin antibody

Immunohistochemical analysis of paraffin-embedded Human cerebellum tissue labelling beta III Tubulin with ab78078 at 1/5000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

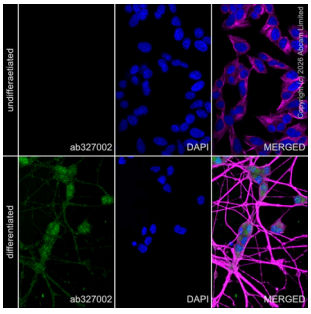
Positive staining on human cerebellum.
The section was incubated with ab78078 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

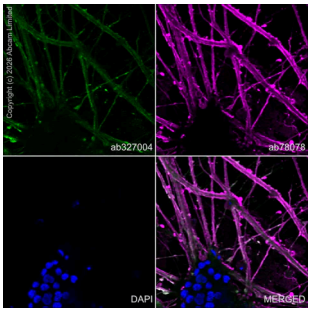
Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of neural differentiated SH-SY5Y using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) neural differentiated SH-SY5Y cells labelling with ab327002 at 1/200 (2.43 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing increased cytoplasmic and nuclear staining in neural differentiated SH-SY5Y cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/500 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Human iPSC derived ioSensory Neurons (ab317489) using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human iPSC derived ioSensory Neurons (ab317489) cells labelling CGRP-I with ab327004 at 1/50 (10.26 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in human iPSC derived ioSensory Neurons (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



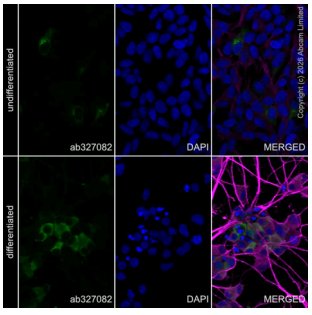
This image is courtesy of Carl Hobbs, King's College London, United Kingdom

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunohistochemistical detection of Neuron specific beta III Tubulin antibody [2G10] using ab78078 in formaldehyde-fixed paraffin-embedded quail embryo eye sections. Antigen retrieval step: heat mediated in citric acid pH6 buffer. Blocking step: 1% BSA for 10 mins @ rt°C Primary antibody incubated at 1/1250 for 2 hours in TBS/BSA/azide. Secondary antibody: anti-Mouse IgG conjugated to biotin used at 1/200. In this image, the lining cells of the hyaloid artery are positive. Excellent neural component specificity: even small fibres outside of the cartilage model of the orbit are clearly demonstrated. This image was generated using a previous batch manufactured using hybridoma production method

---



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

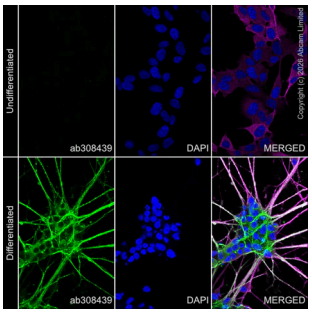
Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Neuronal differentiated SH-SY5Y using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) Neuronal differentiated SH-SY5Y cells labelling with ab327082 at 1/50 (10.06 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing increased cytoplasmic staining in neurnal differentiated SH-SY5Y cells (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

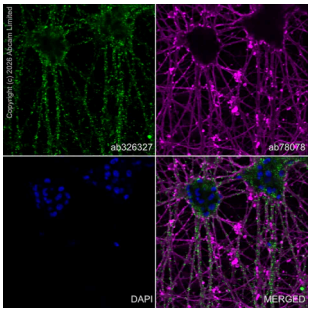
Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized SH-SY5Y (human neuroblastoma epithelial cell) Neuronal differentiated SH-SY5Y labelling Tau (MBD region) with ab308439 at 1/50 (9.64 µg/mL) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 2 µg/mL dilution (Green). Confocal image showing increased cytoplasmic staining in neurnal differentiated SH-SY5Y cells (shown in green). ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker at 1/200 dilution (2.5 µg/ml) was used as a counterstain observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



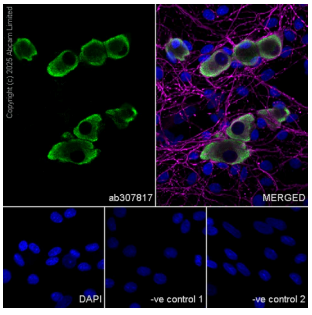
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of ioSensory Neurons™ - Human iPSC derived cells using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Human iPSC derived ioSensory Neurons (ab317489) cells labelling Nav1.8/SCN10A with ab326327 at 1/200 (2.405 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing positive staining in human iPSC derived ioSensory neurons (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution, followed by ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 dilution(Magenta). The Nuclear counterstain was DAPI (Blue).



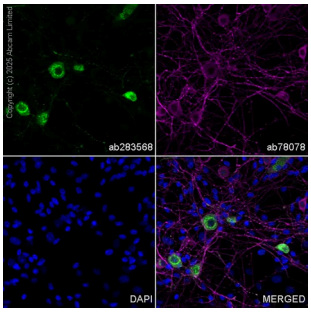
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Rat primary DRG neuron using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary DRG neuron cells labelling Nav1.8/SCN10A with ab307817 at 1/100 (5.32 µg/ml) (shown in Green).

Confocal image showing cytoplasmic staining in rat primary DRG neuron (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.
ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 (2.5 ug/ml) dilution, followed by secondary counterstain ab150120 Goat Anti-Mouse IgG H&L (Alexa Fluor® 594) at 1/1000 (2 ug/ml) dilution.

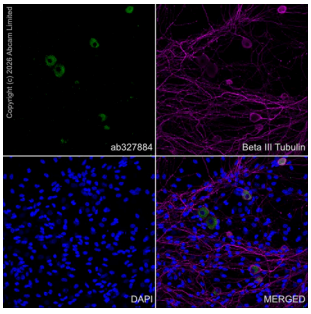
Secondary ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed was used at 1/1000 (2µg/ml)



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Mouse DRG primary neurons using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed mouse DRG primary neurons permeabilized using 0.1% Triton X-100 labelling CGRP-I+CGRP-II with ab283568 (green) followed by ab150081 AlexaFluor®488 preadsorbed Goat anti-Rabbit secondary. ab78078 anti-beta III Tubulin (mouse mAb) was used as counterstain (magenta) with ab150120 AlexaFluor®594 Goat anti-Mouse as secondary. Nuclear DNA was labelled with DAPI (shown in blue). Image showing cytoplasmic staining in mouse DRG primary neurons was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



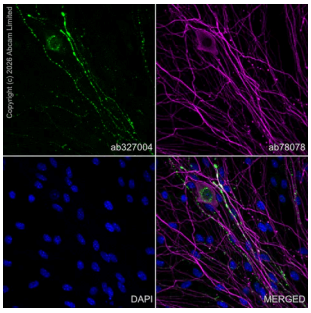
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Mouse primary DRG neuron using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse primary DRG neuron cells labelling Nav1.8/SCN10A with ab327884 at 1/2000 (0.255 µg/ml) dilution, followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in mouse primary DRG neuron (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain beta III Tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

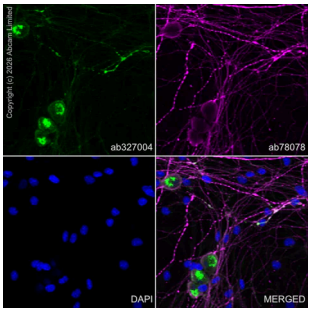
Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Mouse primary DRG neuron using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Mouse primary DRG neuron cells labelling CGRP-I with ab327004 at 1/50 (10.26 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in mouse primary DRG neuron (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

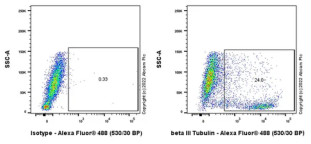
Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Rat primary DRG neuron using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized Rat primary DRG neuron cells labelling CGRP-I with ab327004 at 1/50 (10.26 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing cytoplasmic staining in rat primary DRG neurons (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/200 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed at 1/1000 dilution.

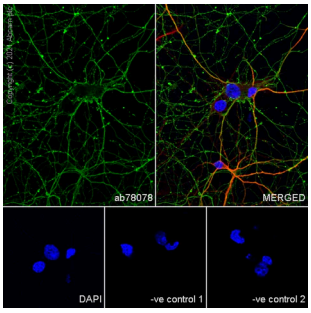


Flow Cytometry (Intracellular) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Flow Cytometry (Intracellular) staining of Rat primary neuron cell using mouse Anti-beta III Tubulin antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Rat primary neuron cell labelling beta III Tubulin with ab78078 at 1/1000 dilution (0.1µg)/ Right compared with a Mouse monoclonal IgG Isotype Control Antibody /Left.

Goat anti-Mouse IgG (Alexa Fluor® 488) (ab150113) at 1/2000 dilution was used as the secondary antibody.



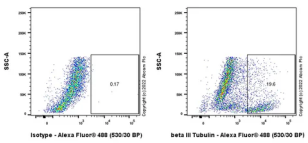
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of rat primary neural/glia cell using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized rat primary neural/glia cells labelling beta III Tubulin with ab78078 at 1/200 dilution followed by a secondary antibody ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green).

Confocal image showing positive staining in rat primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). The counterstain was observed in red. Nuclear DNA was labelled with DAPI (shown in blue).

ab183830 Anti-MAP2 rabbit monoclonal antibody was used to counterstain MAP2 at 1/1000 dilution followed by a secondary antibody ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at 1/500 dilution (Red). The Nuclear counterstain was DAPI (Blue).

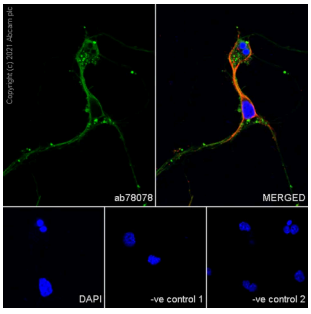


Flow Cytometry (Intracellular) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Flow Cytometry (Intracellular) staining of Mouse primary neuron cell using mouse Anti-beta III Tubulin antibody

Flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized Mouse primary neuron cell labelling beta III Tubulin with ab78078 at 1/1000 dilution (0.1µg)/ Right compared with a Mouse monoclonal IgG Isotype Control Antibody /Left.

Goat anti-Mouse IgG (Alexa Fluor® 488) (ab150113) at 1/2000 dilution was used as the secondary antibody.



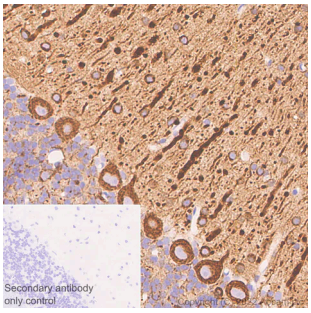
Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of mouse primary neural/glia cell using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neural/glia cells labelling beta III Tubulin with ab78078 at 1/200 dilution followed by a secondary antibody ab150113 Goat Anti-Mouse IgG H&L (Alexa Fluor® 488) at 1/1000 dilution (Green).

Confocal image showing positive staining in mouse primary neuron. Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). The counterstain was observed in red. Nuclear DNA was labelled with DAPI (shown in blue).

ab183830 Anti-MAP2 rabbit monoclonal antibody was used to counterstain MAP2 at 1/1000 dilution followed by a secondary antibody ab150080 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 594) at 1/500 dilution (Red). The Nuclear counterstain was DAPI (Blue).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Rat cerebellum using mouse Anti-beta III Tubulin antibody

Immunohistochemical analysis of paraffin-embedded Rat cerebellum tissue labelling beta III Tubulin with ab78078 at 1/5000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

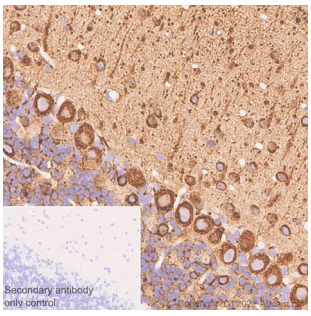
Positive staining on rat cerebellum.
The section was incubated with ab78078 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of Mouse cerebellum using mouse Anti-beta III Tubulin antibody

Immunohistochemical analysis of paraffin-embedded Mouse cerebellum tissue labelling beta III Tubulin with ab78078 at 1/5000 dilution, followed by a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

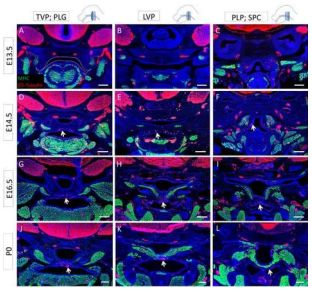
Positive staining on mouse cerebellum.
The section was incubated with ab78078 for 30 mins at room temperature, followed by anti-mouse IgG2a antibody for 8 mins during the LeicaDS9800 kit staining procedure.

The immunostaining was performed on a Leica Biosystems BOND® RX instrument

Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use LeicaDS9800 (Bond™ Polymer Refine Detection).

Heat mediated antigen retrieval was performed with Citrate buffer (pH 6.0, Epitope Retrieval Solution 1) for 20 mins



Grimaldi, A. et al PLoS One. 2015 Dec 15;10(12):e0145018. doi: 10.1371/journal.pone.0145018. eCollection 2015. Reproduced under the Creative Commons license http://creativecommons.org/licenses/by/4.0/.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

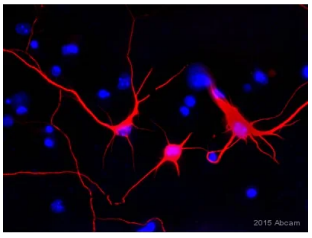
Beta III Tubulin Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using mouse Anti-beta III Tubulin antibody

Soft palate innervation is primarily oro-medial and complements the differentiated muscle pattern
(A-L) MHC (green) and β3-tubulin (red) co-immunostaining along the antero-posterior axis of the mouse soft palate at E13.5 (A-C), E14.5 (D-F), E16.5 (G-I), and P0 (J-L) at the level of the TVP and PLG (A, D, G, J), LVP (B, E, H, K), and PLP and SPC (C, F, I, L). Dashed lines indicate the outline of the palatal shelf and tongue epithelium. Arrows indicate the nerve fibers innervating the palatal shelves in a pattern complementary to the differentiated muscle, mainly located orally in the medial region. The schematic drawings indicate the orientation and the position of each section. Scale bars: 200µm.

beta III Tubulin is detected with ab78078.

(From Figure 4 of Grimaldi et al)

This image was generated using a previous batch manufactured using hybridoma production method

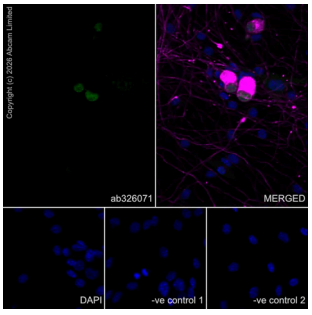


This image is courtesy of an anonymous customer review

Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

ab78078 staining beta III Tubulin (red) in mouse differentiated neural stem cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with paraformaldehyde, permeabilized with 0.2% Triton X-100. Samples were incubated with primary antibody (5µg/ml in PBS + 3% BSA) for 16 hours at 4°C. An Alexa Fluor® 568-conjugated donkey anti-mouse IgG polyclonal (1/1000) was used as the secondary antibody. Blue - DAPI nuclear counterstain. This image was generated using a previous batch manufactured using hybridoma production method



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

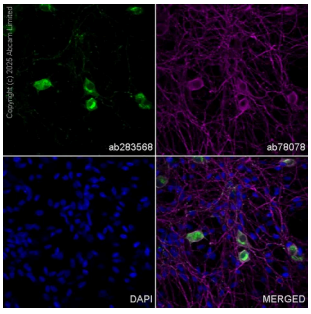
Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of mouse DRG (Mouse primary dorsal root ganglion cell) using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse DRG (Mouse primary dorsal root ganglion cell) cells labelling SHOX2 with ab326071 at 1/200 (2.51 µg/ml) dilution , followed by ab150081 Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) preadsorbed antibody at 1/1000 dilution (Green).

Confocal image showing mainly nuclear staining in mouse DRG (shown in green). The counterstain was observed in magenta. Nuclear DNA was labelled with DAPI (shown in blue). Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8). Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection.

ab78078 Anti-beta III Tubulin mouse monoclonal antibody - Neuronal Marker was used to counterstain tubulin at 1/1000 dilution (Magenta). The Nuclear counterstain was DAPI (Blue).

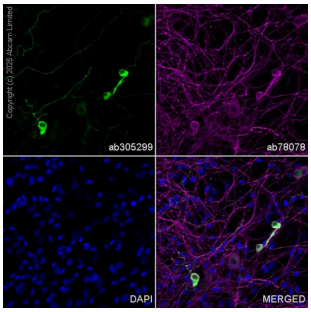
-ve control 1: ab326071 at 1/200 dilution, followed by ab150120 at 1/1000 dilution.-ve control 2: ab78078 at 1/500 dilution, followed by ab150081 at 1/1000 dilution.



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Rat DRG primary neurons using mouse Anti-beta III Tubulin antibody

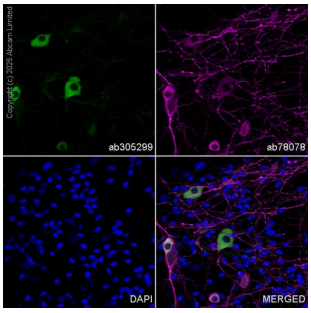
Immunofluorescent analysis of 4% Paraformaldehyde fixed rat DRG primary neurons permeabilized using 0.1% Triton X-100 labelling CGRP-I+CGRP-II with ab283568 (green) followed by ab150081 AlexaFluor®488 preadsorbed Goat anti-Rabbit secondary. ab78078 anti-beta III Tubulin (mouse mAb) was used as counterstain (magenta) with ab150120 AlexaFluor®594 Goat anti-Mouse as secondary. Nuclear DNA was labelled with DAPI (shown in blue). Image showing cytoplasmic staining in rat DRG primary neurons was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Rat DRG primary neurons using mouse Anti-beta III Tubulin antibody

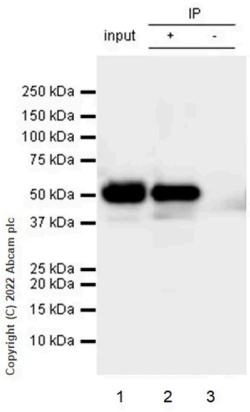
Immunofluorescent analysis of 4% Paraformaldehyde fixed rat DRG primary neurons permeabilized using 0.1% Triton X-100 labelling TRPV1 with ab305299 (green) followed by ab150081 AlexaFluor®488 preadsorbed Goat anti-Rabbit secondary. ab78078 anti-beta III Tubulin (mouse mAb) was used as counterstain (magenta) with ab150120 AlexaFluor®594 Goat anti-Mouse as secondary. Nuclear DNA was labelled with DAPI (shown in blue). Image showing cytoplasmic staining in rat DRG primary neurons was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunocytochemistry/ Immunofluorescence - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

Beta III Tubulin Immunocytochemistry/ Immunofluorescence staining of Mouse DRG primary neurons using mouse Anti-beta III Tubulin antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed mouse DRG primary neurons permeabilized using 0.1% Triton X-100 labelling TRPV1 with ab305299 (green) followed by ab150081 AlexaFluor®488 preadsorbed Goat anti-Rabbit secondary. ab78078 anti-beta III Tubulin (mouse mAb) was used as counterstain (magenta) with ab150120 AlexaFluor®594 Goat anti-Mouse as secondary. Nuclear DNA was labelled with DAPI (shown in blue). Image showing cytoplasmic staining in mouse DRG primary neurons was taken with a confocal microscope (Leica-Microsystems, TCS SP8).



Immunoprecipitation - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

beta III Tubulin was immunoprecipitated from Mouse brain tissue lysate 10 µg with ab78078 at 1/50 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab78078 at 1/1000 dilution.

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

All lanes:
Immunoprecipitation - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) at 1/50 dilution

Lane 1:
Mouse brain tissue lysate (Input) at 10 µg

Lane 2:
Mouse brain tissue lysate (+)

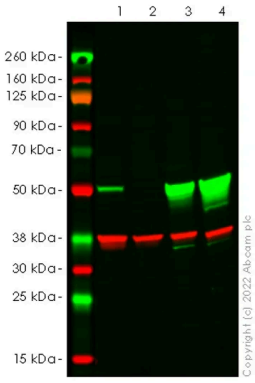
Lane 3:
Mouse IgG1, kappa monoclonal isotype control (ab18443) instead of ab78078 in mouse brain tissue lysate (-)

Secondary

All lanes:
Immunoprecipitation - Anti-mouse IgG for IP (HRP) (ab131368) at 1/5000 dilution

Observed band size: 50 kDa

Exposure time: 1s



Western blot - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

False colour image of Western blot: Anti-beta III Tubulin antibody [2G10] staining at 1/1000 dilution, shown in green; Rabbit anti-GAPDH antibody ab181602 loading control staining at 1/20000 dilution, shown in red.

In Western blot, ab78078 was shown to bind specifically to beta III Tubulin. A band was observed at 50 kDa in wild-type HeLa cell lysates with no signal observed at this size in the beta III Tubulin knockout cell line. To generate this image, wild-type and beta III Tubulin knockout HeLa cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a PVDF-FL membrane. Membranes were blocked in Odyssey diluted in equal volume of 0.1 % TBS before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat Anti-Mouse IgG H&L (IRDye® 800CW) (ab216772) and Goat Anti-Rabbit IgG H&L (IRDye® 680RD) (ab216777) at 1/10000 dilution.

All lanes:
Western blot - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) at 1/1000 dilution

Lane 1:
Wild-type HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

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

Lane 3:
SH-SY5Y (human neuroblastoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
Neuro-2a (mouse neuroblastoma neuroblast) whole cell lysate at 20 µg

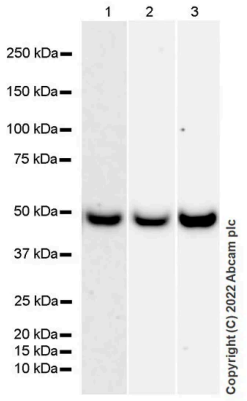
Secondary

Lanes 1 - 4:
Western blot - Goat anti-Mouse IgG H&L (IRDye® 800CW) preadsorbed (ab216772) at 1/10000 dilution

Lanes 1 - 4:
Western blot - Goat Anti-Rabbit IgG H&L (IRDye® 680RD) preadsorbed (ab216777) at 1/10000 dilution

Performed under reducing conditions.

Observed band size: 50 kDa



Western blot - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Blocking and diluting buffer and concentration: 5% NFDM/TBST

Exposure Time:
Lane 1: 136 seconds
Lane 2,3: 15 seconds

All lanes:
Western blot - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078) at 1/2000 dilution

Lane 1:
293T (human embryonic kidney epithelial cell) whole cell lysate at 20 µg

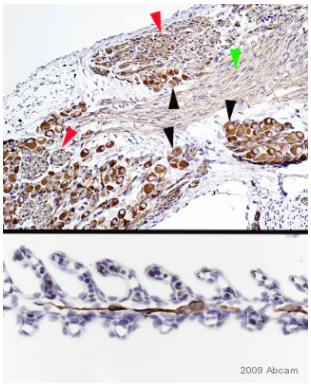
Lane 2:
HeLa (human epithelial cell line from cervical adenocarcinoma) whole cell lysate at 20 µg

Lane 3:
PC-12 (rat adrenal gland pheochromocytoma) whole cell lysate at 20 µg

Secondary

All lanes:
Peroxidase-Conjugated Goat anti-Mouse IgG (H+L) at 1/50000 dilution

Observed band size: 50 kDa

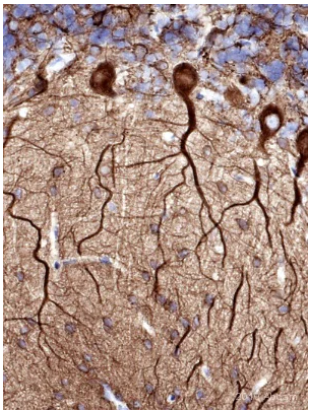


This image is courtesy of Carl Hobbs, King's College London, United Kingdom

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunohistochemical detection of Neuron specific beta III Tubulin using ab78078 on formaldehyde fixed dogfish/catshark PNS tissue sections. Antigen retrieval step: heat mediated in citric acid. Blocking: 1% BSA for 10 mins @ rt°C. Primary antibody ab78078 incubated at 1/1250 for 2 hours. Secondary Antibody: anti mouse IgG conjugated to biotin @ 1/200 This is a composite image of neuronal cell bodies and fibres; the upper image uses coloured arrowheads to indicate positive PNS components: cell bodies (black), L/S (green) and T/S (red) nerve fibres of what appear to be three Ganglia. Note that the L/S fibres do not appear as well-stained as the T/S fibres. The lower image shows what appears to be a linear sequence of single nerve cells and their processes within the core of a gill. This image was generated using a previous batch manufactured using hybridoma production method



This image is courtesy of Carl Hobbs, King's College London, United Kingdom

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-beta III Tubulin antibody [2G10] - Neuronal Marker (ab78078)

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

Immunohistochemistical detection of Neuron specific beta III Tubulin antibody using ab78078 on formaldehyde-fixed paraffin-embedded marmoset cerebellum sections. Antigen retrieval step: Heat mediated in Citric acid pH6 buffer. Permeabilization: No. Blocking step: 1% BSA for 10 mins @ rt°C. Primary Antibody used at 1/1000 incubated for 2 hours in TBS/BSA/azide. Secondary Antibody: anti mouse IgG conjugation to biotin (1/200).

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