abcam

Product datasheet

HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker ab190574

KO VALIDATED Recombinant RabMAb

4 Images

Overview

Product name	HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker
Description	HRP Rabbit monoclonal [EP1569Y] to beta III Tubulin - Neuronal Marker
Host species	Rabbit
Conjugation	HRP
Tested applications	**Suitable for:** WB
Species reactivity	**Reacts with:** Mouse, Rat, Human
Immunogen	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: HeLa and PC12 whole cell lysates. Mouse brain, mouse spinal cord, rat brain and rat spinal cord tissue lysates.
General notes	Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle. Store In the Dark.
Storage buffer	pH: 7.40 Preservative: 0.1% Proclin 300 Solution Constituents: 30% Glycerol (glycerin, glycerine), 1% BSA, PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EP1569Y
Isotype	IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab190574 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/3000 - 1/10000. Detects a band of approximately 52 kDa (predicted molecular weight: 50 kDa).

Target

Function Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha-chain. TUBB3 plays a critical role in proper axon guidance and mantainance.

Tissue specificity Expression is primarily restricted to central and peripheral nervous system.

Involvement in disease Defects in TUBB3 are the cause of congenital fibrosis of extraocular muscles type 3A (CFEOM3A) [MIM:600638]. A congenital ocular motility disorder marked by restrictive ophthalmoplegia affecting extraocular muscles innervated by the oculomotor and/or trochlear nerves. It is clinically characterized by anchoring of the eyes in downward gaze, ptosis, and backward tilt of the head. Congenital fibrosis of extraocular muscles type 3 presents as a non-progressive, autosomal dominant disorder with variable expression. Patients may be bilaterally or unilaterally affected, and their oculo-motility defects range from complete ophthalmoplegia (with the eyes fixed in a hypo- and exotropic position), to mild asymptomatic restrictions of ocular movement. Ptosis, refractive error, amblyopia, and compensatory head positions are associated with the more severe forms of the disorder. In some cases the ocular phenotype is accompanied by additional features including developmental delay, corpus callosum agenesis, basal ganglia dysmorphism, facial weakness, polyneuropathy.

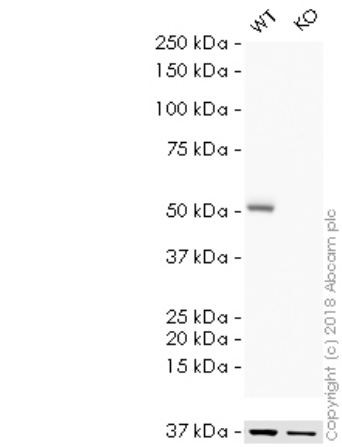
Sequence similarities Belongs to the tubulin family.

Domain The highly acidic C-terminal region may bind cations such as calcium.

Post-translational modifications Some glutamate residues at the C-terminus are polyglutamylated. This modification occurs exclusively on glutamate residues and results in polyglutamate chains on the gamma-carboxyl group. Also monoglycylated but not polyglycylated due to the absence of functional TTLL10 in human. Monoglycylation is mainly limited to tubulin incorporated into axonemes (cilia and flagella) whereas glutamylation is prevalent in neuronal cells, centrioles, axonemes, and the mitotic spindle. Both modifications can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of such modifications is still unclear but they regulate the assembly and dynamics of axonemal microtubules.

Cellular localization Cytoplasm > cytoskeleton.

Images



Western blot - HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574)

Lane 1 : HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574) at 20 µg
Lane 2 : HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574) at 1/5000 dilution

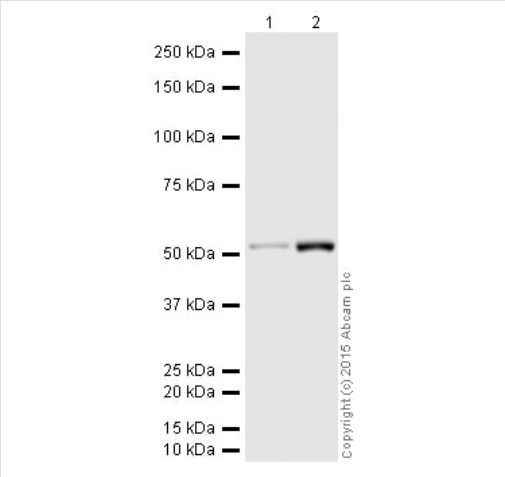
Lane 1 : Wild-type HAP1 whole cell lysate
Lane 2 : TUBB3 (beta III Tubulin) knockout HAP1 whole cell lysate

Lysates/proteins at 20 µg per lane.

Predicted band size: 50 kDa
Observed band size: 50 kDa

Exposure time: 2 minutes

ab190574 was shown to specifically react with beta III Tubulin in wild-type HAP1 cells as signal was lost in TUBB3 (beta III Tubulin) knockout cells. Wild-type and TUBB3 (beta III Tubulin) knockout samples were subjected to SDS-PAGE. Ab190574 and **ab184095** (Mouse monoclonal [mAbcam 9484] to GAPDH - Loading Control (Alexa Fluor® 680) loading control) were incubated overnight at 4°C at 1/5000 dilution and 1/1000 dilution respectively. The loading control was imaged using the Licor Odyssey CLx prior to blots being developed with ECL technique.



Western blot - HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574)

All lanes : HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574) at 1/3000 dilution

Lane 1 : HeLa whole cell lysate (**ab150035**)
Lane 2 : PC12 (Rat adrenal pheochromocytoma cell line) Whole Cell Lysate

Lysates/proteins at 20 µg per lane.

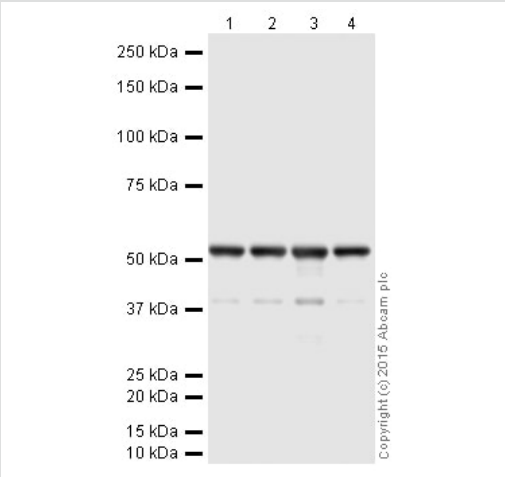
Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 50 kDa
Observed band size: 52 kDa

Exposure time: 1 second

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab190574 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.



Western blot - HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574)

All lanes : HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574) at 1/10000 dilution

Lane 1 : Brain (Mouse) Tissue Lysate
Lane 2 : Spinal Cord (Mouse) Tissue Lysate
Lane 3 : Brain (Rat) Tissue Lysate
Lane 4 : Spinal Cord (Rat) Tissue Lysate

Lysates/proteins at 10 µg per lane.

Developed using the ECL technique.

Performed under reducing conditions.

Predicted band size: 50 kDa
Observed band size: 52 kDa

Exposure time: 1 second

This blot was produced using a 4-12% Bis-tris gel under the MOPS buffer system. The gel was run at 200V for 50 minutes before being transferred onto a Nitrocellulose membrane at 30V for 70 minutes. The membrane was then blocked for an hour using 3% milk before being incubated with ab190574 overnight at 4°C. Antibody binding was visualised using ECL development solution **ab133406**.

HRP Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab190574)

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