abcam

Product datasheet

# Alexa Fluor® 555 Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker ab202519

KO VALIDATED Recombinant RabMAb

2 References 3 Images

## Overview

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|---|---|
| **Product name** | Alexa Fluor® 555 Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker |
| **Description** | Alexa Fluor® 555 Rabbit monoclonal [EP1569Y] to beta III Tubulin - Neuronal Marker |
| **Conjugation** | Alexa Fluor® 555. Ex: 555nm, Em: 565nm |
| **Tested applications** | **Suitable for:** ICC/IF |
| **Species reactivity** | **Reacts with:** Human<br>**Predicted to work with:** Mouse, Rat, Zebrafish |
| **Immunogen** | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. |
| **Positive control** | ICC/IF: U87MG cells, HAP1 cells (HAP1-TUBB3 knockout cells used as negative cell line) |
| **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**.<br>Alexa Fluor® is a registered trademark of Molecular Probes, Inc, a Thermo Fisher Scientific Company. The Alexa Fluor® dye included in this product is provided under an intellectual property license from Life Technologies Corporation. As this product contains the Alexa Fluor® dye, the purchase of this product conveys to the buyer the non-transferable right to use the purchased product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). As this product contains the Alexa Fluor® dye the sale of this product is expressly conditioned on the buyer not using the product or its components, or any materials made using the product or its components, in any activity to generate revenue, which may include, but is not limited to use of the product or its components: in manufacturing; (ii) to provide a service, information, or data in return for payment (iii) for therapeutic, diagnostic or prophylactic purposes; or (iv) for resale, regardless of whether they are sold for use in research. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, 5781 Van Allen Way, Carlsbad, CA 92008 USA or **outlicensing@thermofisher.com**. |

## Properties

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| **Form** | Liquid |
| **Storage instructions** | Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. |

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| | Avoid freeze / thaw cycle. Store In the Dark. |
| **Storage buffer** | pH: 7.40<br>Preservative: 0.02% Sodium azide<br>Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA |
| **Purity** | Protein A purified |
| **Clonality** | Monoclonal |
| **Clone number** | EP1569Y |
| **Isotype** | IgG |

## Applications

**The Abpromise guarantee** Our **Abpromise guarantee** covers the use of ab202519 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 |
|---|---|---|
| **ICC/IF** | | 1/200 - 1/500.<br>This product gave a positive signal in U87MG cells fixed with 4% formaldehyde (10 min) and 100% methanol (5 min). |

## Target

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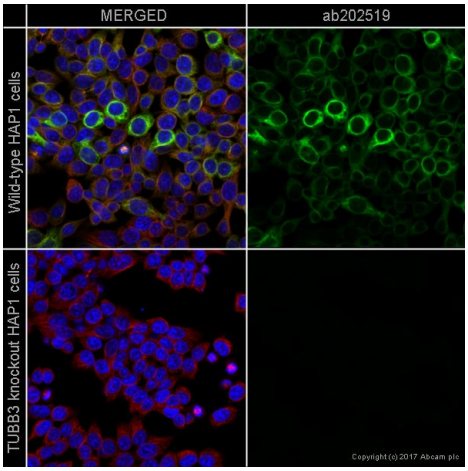
|---|---|
| **Function** | Tubulin is the major constituent of microtubules. It binds two moles of GTP, one at an exchangeable site on the beta chain and one at a non-exchangeable site on the alpha-chain. TUBB3 plays a critical role in proper axon guidance and mantainance. |
| **Tissue specificity**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

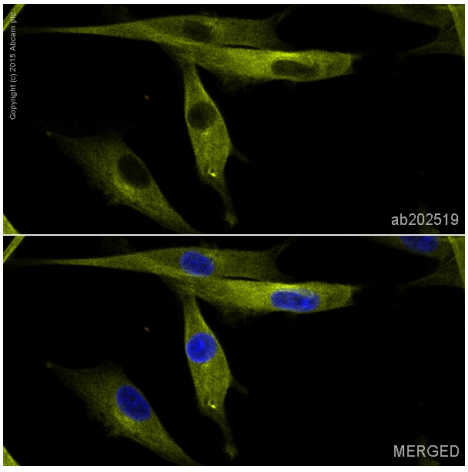
## Images




Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab202519)

ab202519 staining beta III tubulin in wild-type HAP1 cells (top panel) and TUBB3 knockout HAP1 cells (bottom panel). The cells were fixed with 100% methanol (5min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab202519 at a 1/500 dilution (shown in green) and **ab195884**, Rat monoclonal [YOL1/34] to Tubulin (Alexa Fluor® 647), at a 1/250 dilution (shown in red). Nuclear DNA was labelled with DAPI (shown in blue).

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




Immunocytochemistry/ Immunofluorescence - Alexa Fluor® 555 Anti-beta III Tubulin antibody [EP1569Y] - Neuronal Marker (ab202519)

ab202519 staining beta III Tubulin in U87MG cells. The cells were fixed with 4% formaldehyde (10 min), permeabilized with 0.1% Triton X-100 for 5 minutes and then blocked with 1% BSA/10% normal goat serum/0.3M glycine in 0.1% PBS-Tween for 1h. The cells were then incubated overnight at +4°C with ab202519 at 1/200 dilution (shown in yellow). Nuclear DNA was labelled with DAPI (shown in blue).

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

This product also gave a positive signal under the same testing conditions in U87MG cells fixed with 100% methanol (5min).


Alexa Fluor® 555 Anti-beta III Tubulin antibody

[EP1569Y] - Neuronal Marker (ab202519)

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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