ARG62683
anti-beta III Tubulin antibody [TU-20]

Package: 100 µg, 50 µg
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [TU-20] recognizes beta III Tubulin
Tested Reactivity	Hu, Ms, Rat, Dog, Pig
Tested Application	FACS, ICC/IF, IHC-Fr, IHC-P, WB
Specificity	The clone TU-20 recognizes C-terminal peptide sequence ESESQGPK (aa 441-448) of neuron-specific human beta III Tubulin.
Host	Mouse
Clonality	Monoclonal
Clone	TU-20
Isotype	IgG1
Target Name	beta III Tubulin
Immunogen	Peptide (C) 441-448 coupled to maleimide-activated keyhole limpet hemocyanin via cysteine added to the N-terminus of the neuron-specific peptide.
Conjugation	Un-conjugated
Alternate Names	CDCBM1; Tubulin beta-4 chain; Tubulin beta-3 chain; CFEOM3A; Tubulin beta-III; TUBB4; CDCBM; CFEOM3; FEOM3; beta-4

Application Instructions

Application table

Application	Dilution
FACS	1 - 4 µg/ml
ICC/IF	Assay-dependent
IHC-Fr	Assay-dependent
IHC-P	10 µg/ml
WB	1 - 2 µg/ml

Application Note

WB: In reducing conditions, incubated for 90 min. Positive control: Porcine brain lysate; Negative control: HPB-ALL human peripheral blood leukemia cell line. Sample preparation: Mix lysate with reducing Laemmli SDS-PAGE sample buffer.
IHC-P: Staining technique: Standard ABC technique (DAB+). Antigen Retrieval: Heat the tissue section in 10 mM Citrate buffer (pH 6.0) or pretreat samples with 0.1% pepsin (trypsin) in 0.1M HCl for 30 min at RT.

* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control

Positive tissue: neuronal tissue
Immunocytochemistry: Positive material: Neuro2a mouse neuroblastoma cell line

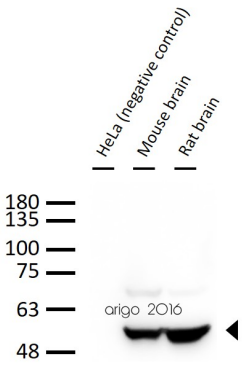
Properties

Form	Liquid
Purification	Purified by ammonium sulphate and caprylic acid precipitation
Purity	> 95% (by SDS-PAGE)
Buffer	PBS (pH 7.4) and 15 mM Sodium azide
Preservative	15 mM Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

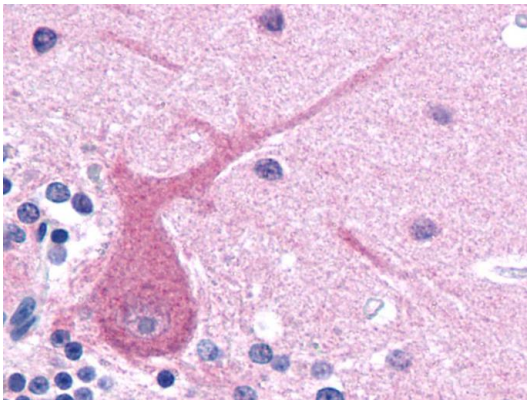
Gene Symbol	TUBB3
Gene Full Name	tubulin, beta 3 class III
Background	The beta III-Tubulin isoform is present dominantly in cells of neuronal origin and it is one of the earliest markers of neuronal differentiation. It is regarded as a specific probe for the cells of neuronal origin as well as for the tumours originating from these cells. The betaIII-Tubulin is most abundant in cells of neuronal origin, but was also detected in Sertoli cells of the testis and transiently in non-neuronal embryonic tissues.
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. [UniProt]
Highlight	Related Antibody Duos and Panels: ARG30010 Neuronal Cytoskeletal Antibody Duo (NF-L, TUBBIII) ARG30301 Neurite Marker Antibody Duo Related products: beta III Tubulin antibodies; beta III Tubulin Duos / Panels; Anti-Mouse IgG secondary antibodies; Related news: Stem cell and the regenerative medicine: Ready for the patients Neuronal Development Marker Choose the Best ZIKA Virus Antibodies Fight microcephaly with arigo Astrocyte-to-neuron conversion for Parkinson's disease treatment
Research Area	Controls and Markers antibody; Neuroscience antibody; Signaling Transduction antibody; Neuron Development Study antibody; Neuronal Cytoskeletal antibody; Neurite Marker antibody
Calculated Mw	50 kDa
PTM	Some glutamate residues at the C-terminus are polyglutamylated, resulting in polyglutamate chains on the gamma-carboxyl group (PubMed:26875866). Polyglutamylation plays a key role in microtubule severing by spastin (SPAST). SPAST preferentially recognizes and acts on microtubules decorated with short polyglutamate tails: severing activity by SPAST increases as the number of glutamates per tubulin rises from one to eight, but decreases beyond this glutamylation threshold (PubMed:26875866). Some glutamate residues at the C-terminus are 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). Both polyglutamylation and monoglycylation can coexist on the same protein on adjacent residues, and lowering glycylation levels increases polyglutamylation, and reciprocally. The precise function of monoglycylation is still unclear (Probable). Phosphorylated on Ser-172 by CDK1 during the cell cycle, from metaphase to telophase, but not in interphase. This phosphorylation inhibits tubulin incorporation into microtubules.

Images



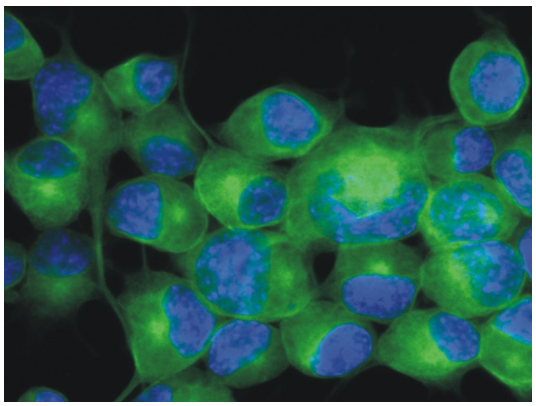
ARG62683 anti-beta III Tubulin antibody [TU-20] WB image

Western blot: 30 µg of 1) HeLa (negative control), 2) Mouse brain, and 3) Rat brain lysate stained with ARG62683 anti-beta III Tubulin antibody [TU-20] at 1:1000 dilution.



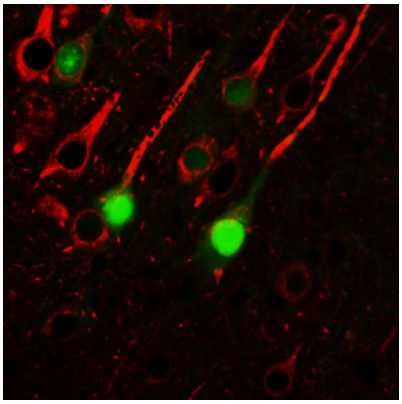
ARG62683 anti-beta III Tubulin antibody [TU-20] IHC-P image

Immunohistochemistry: Paraffin-embedded Human brain tissue stained with ARG62683 anti-beta III Tubulin antibody [TU-20].



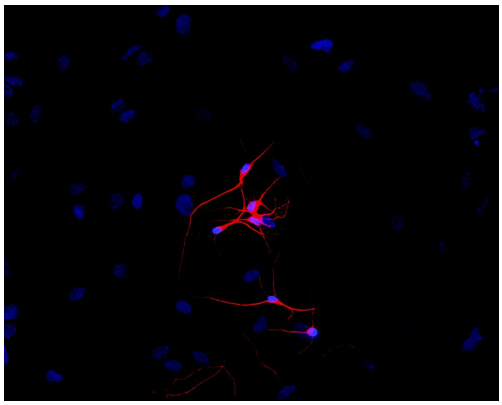
ARG62683 anti-beta III Tubulin antibody [TU-20] ICC/IF image

Immunofluorescence: Neuro2a mouse neuroblastoma cell stained with ARG62683 anti-beta III Tubulin antibody [TU-20] (green). Cell nuclei was stained with DAPI (blue).



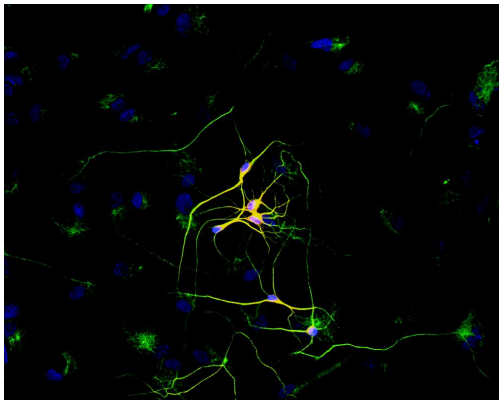
ARG62683 anti-beta III Tubulin antibody [TU-20] IHC-P image

Immunohistochemistry: Mouse brain stained with ARG62683 anti-beta III Tubulin antibody [TU-20].



ARG62683 anti-beta III Tubulin antibody [TU-20] ICC/IF image

Immunofluorescence: P-19 mouse embryonal carcinoma cells stimulated to neuronal differentiation by retinoic acid stained with ARG62683 anti-beta III Tubulin antibody [TU-20] (red).
Cell nuclei was stained with DAPI (blue).



ARG62683 anti-beta III Tubulin antibody [TU-20] ICC/IF image

Immunofluorescence: P-19 mouse embryonal carcinoma cell line stimulated to neuronal differentiation by retinoic acid co-stained with stained with ARG62683 anti-beta III Tubulin antibody [TU-20] (red) and anti-beta-tubulin (green)
Superposition of red and green colours provided yellow staining.
Nuclei were stained with DNA-binding dye (blue).