

HA610444

Product Type:	Recombinant Chimeric Antibody, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	IHC-P, IF-Tissue, IHC-Fr, WB, IF-Cell
Molecular Wt:	Predicted band size: 50 kDa
Clone number:	PSH15-32

Description:	Tubulin beta-3 chain, Class III β -tubulin, β III-tubulin (β 3-tubulin) or β -tubulin III, is a microtubule element of the tubulin family found almost exclusively in neurons, and in testis cells. In humans, it is encoded by the TUBB3 gene. Forebrain neuronal culture after 40 days of differentiation from induced human pluripotent stem cells. Class III β -tubulin is one of the seven β -tubulin isotypes identified in the human genome, predominantly in neurons and the testis. It is conditionally expressed in a number of other tissues after exposure to a toxic microenvironment featured by hypoxia and poor nutrient supply. Posttranslational changes including phosphorylation and glycosylation are required for functional activity. Class III β -tubulin's role in neural development has warranted its use as an early biomarker of neural cell differentiation from multi potent progenitors. TUBB3 inactivation impairs neural progenitor proliferation. Rescue experiments demonstrate the non-interchangeability of TUBB3 with other classes of β -tubulins which cannot restore the phenotype resulting from TUBB3 inactivation. Congenital neurologic syndromes associated with TUBB3 missense mutations demonstrate the critical importance of class III β -tubulin for normal neural development.
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Immunogen:	Synthetic peptide within mouse Beta III Tubulin aa 401-450.
Positive control:	Neuro-2a, Human Cerebellum, Mouse Cerebellum, Rat Cerebellum.
Subcellular location:	Cytoplasm, cytoskeleton, growth cone, lamellipodium, filopodium.
Database links:	SwissProt: Q13509 Human Q9ERD7 Mouse Q4QRB4 Rat

Recommended Dilutions:

WB	1:10,000
IHC-P	1:2,000
IF-Tissue	1:1,000
IHC-Fr	1:200-1:500
IF-Cell	1:50

Storage Buffer:	PBS (pH7.4).
Storage Instruction:	Store at +4°C after thawing. Aliquot store at -20°C. Avoid repeated freeze / thaw cycles.
Purity:	Protein A affinity purified.

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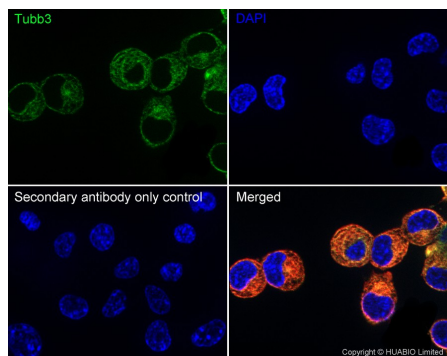
Orders:0086-571-88062880

Technical:0086-571-89986345

Service mail:support@huabio.cn

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Images

**Fig1:** Application: Immunocytochemistry (IF-cell)

Species: Human

Sample: Neuro-2a (Mouse brain neuroblastoma cell)

Fixation: 4% Paraformaldehyde, 15 minutes at room temperature.

Permeabilization: 0.1% Triton X-100, 15 minutes at room temperature.

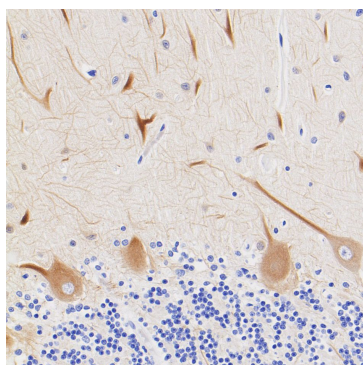
Blocking: 1% BSA + 10% normal goat serum, 1 hour at room temperature.

Antibody dilution buffer: 1% BSA in PBST.

Primary antibody: HA610444, 1/50, overnight at 4°C.

Secondary antibody: Goat Anti-Rabbit IgG (iFluor™ 488, HA1121), 45 minutes at room temperature.

Counterstain: Beta tubulin (ET1602-4, Red), 1/500, overnight at 4°C. The nuclear counterstain was DAPI (Blue).

**Fig2:** Application: Immunohistochemistry (IHC-P)

Species: Human

Tissue: Cerebellum

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA610444, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1120, 20 minutes at room temperature.

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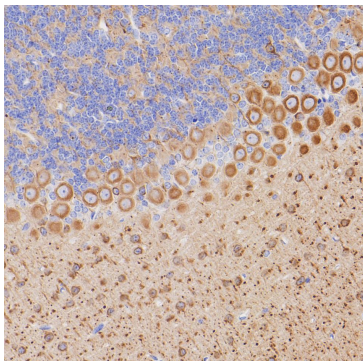


Fig3: Application: Immunohistochemistry (IHC-P)

Species: Mouse

Tissue: Cerebellum

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95℃.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA610444, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1120, 20 minutes at room temperature.

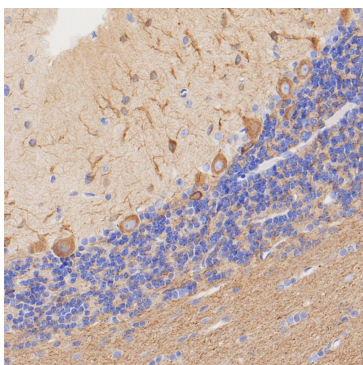


Fig4: Application: Immunohistochemistry (IHC-P)

Species: Rat

Tissue: Cerebellum

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95℃.

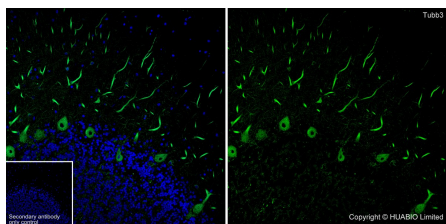
Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA610444, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1120, 20 minutes at room temperature.

**Fig5:** Application: Immunofluorescence (IF-tissue)

Species: Human

Tissue: Cerebellum

Sample: Paraffin-embedded section

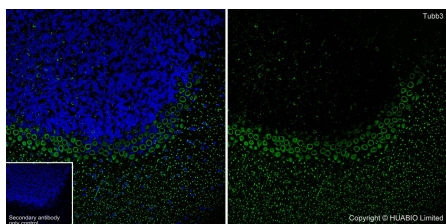
Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.

Primary antibody: HA610444, 1/1,000, overnight at 4°C.

Secondary antibody: Goat Anti-Mouse IgG (iFluor™ 488, HA1125), 1.5 hours at room temperature.

**Fig6:** Application: Immunofluorescence (IF-tissue)

Species: Mouse

Tissue: Cerebellum

Sample: Paraffin-embedded section

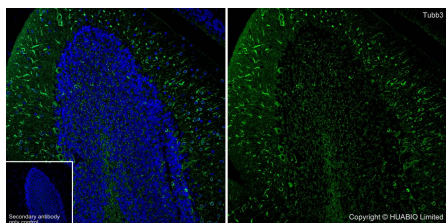
Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.

Primary antibody: HA610444, 1/1,000, overnight at 4°C.

Secondary antibody: Goat Anti-Mouse IgG (iFluor™ 488, HA1125), 1.5 hours at room temperature.

**Fig7:** Application: Immunofluorescence (IF-tissue)

Species: Rat

Tissue: Cerebellum

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.

Primary antibody: HA610444, 1/1,000, overnight at 4°C.

Secondary antibody: Goat Anti-Mouse IgG (iFluor™ 488, HA1125), 1.5 hours at room temperature.

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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Puri D et al. TUBB3 and KIF21A in neurodevelopment and disease. Front Neurosci. 2023 Aug
2. Jin S et al. TUBB3 M323V Syndrome Presents with Infantile Nystagmus. Genes (Basel). 2021 Apr

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