SunLong Biotech Co.,LTD
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Mouse Anti-TUBB3 (Neuronal Marker)antibody

SLM-33177M

Product Name	TUBB3 (Neuronal Marker)
Chinese Name	微管蛋白 β3（神经 Maker）单克隆抗体
Alias	Tubulin beta 3; beta III Tubulin; Tubb3; Tubulin beta-3; beta 4; MC1R; TUBB 3; TUBB 4; TUBB3; TUBB4; Tubulin beta 3 chain; Tubulin beta 4; Tubulin beta III; Tubulin beta-3 chain; Neuron-specific class III beta-tubulin; Syntaxin III; Neuron specific beta III Tubulin; Tubulin beta-4 chain; Tubulin beta-III; beta-4; CDCBM; CFEOM3A; M(beta)3; M(beta)6; Neuron-specific class III beta-tubulin; QccE-11995; QccE-15186; TBB3_HUMAN; Tubulin beta 4; Tubulin beta-4 chain. TUJ1
Research Area	Cell biology Neurobiology Cell type markers Cytoskeleton
Immunogen Species	Mouse
Clonality	Monoclonal
Clone NO.	6F12
React Species	Human,Mouse,Rat
Applications	WB=1:1000-10000,IHC-P=1:200-1000,IHC-F=1:200-1000,IF=1:200-1000,Flow-Cyt=1μg/Test（Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Theoretical molecular weight	50kDa
Cellular localization	cytoplasmic
Form	Liquid
Concentration	1mg/ml
immunogen	KLH conjugated synthetic peptide derived from human TUBB3
Lsotype	IgG
Purification	affinity purified by Protein G
Buffer	1M TBS(pH7.4) with 1% BSA, 3% Proclin300 and 50% Glycerol.

Solution

Storage Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.

Attention This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

PubMed PubMed

Product Detail

Neuronal Marker
Beta III tubulin is abundant in the central and peripheral nervous systems (CNS and PNS) where it is prominently expressed during fetal and postnatal development. As exemplified in cerebellar and sympathoadrenal neurogenesis, the distribution of beta III is neuron-associated, exhibiting distinct temporospatial gradients according to the regional neuroepithelia of origin. However, transient expression of this protein is also present in the subventricular zones of the CNS comprising putative neuronal- and/or glial precursor cells, as well as in Kulchitsky neuroendocrine cells of the fetal respiratory epithelium. This temporally restricted, potentially non-neuronal expression may have implications in the identification of presumptive neurons derived from embryonic stem cells.

Function:
Tubulin is the major constituent of microtubules. Itbinds two moles of GTP, one at an exchangeable site on the betachain and one at a non-exchangeable site on the alpha chain. TUBB3plays a critical role in proper axon guidance and mantainance.

Subunit:
Dimer of alpha and beta chains.

Subcellular Location:
Cytoplasm, cytoskeleton.

Tissue Specificity:
Expression is primarily restricted to centraland peripheral nervous system. Greatly increased expression in mostcancerous tissues.

Post-translational modifications:
Some glutamate residues at the C-terminus arepolyglutamylated. This modification occurs exclusively on glutamateresidues and results in polyglutamate chains on the gamma-carboxylgroup. Also monoglycylated but not polyglycylated due to theabsence of functional TTLL10 in human. Monoglycylation is mainlylimited to tubulin incorporated into axonemes (cilia and flagella)whereas glutamylation is prevalent in neuronal cells, centrioles,axonemes, and the mitotic spindle. Both modifications can coexiston the same protein on adjacent residues, and lowering glycylationlevels increases polyglutamylation, and reciprocally. The precisefunction of such modifications is still unclear but they regulatethe assembly and dynamics of axonemal microtubules (Probable).
Phosphorylated on Ser-172 by CDK1 during the cell cycle, frommetaphase to telophase, but not in interphase. This phosphorylationinhibits tubulin incorporation into microtubules.

DISEASE:
Defects in TUBB3 are the cause of congenital fibrosis ofextraocular muscles type 3A (CFEOM3A) [MIM:600638]. A congenitalocular motility disorder marked by restrictive ophthalmoplegiaaffecting extraocular muscles innervated by the oculomotor and/ortrochlear nerves. It is clinically characterized by anchoring ofthe eyes in downward gaze, ptosis, and backward tilt of the head.Congenital fibrosis of extraocular muscles type 3 presents as anon-progressive, autosomal dominant disorder with variableexpression. Patients may be bilaterally or unilaterally affected,and their oculo-motility defects range from completeophthalmoplegia (with the eyes fixed in a hypo- and exotropicposition), to mild asymptomatic restrictions of ocular movement.Ptosis, refractive error, amblyopia, and compensatory headpositions are associated with the more severe forms of thedisorder. In some cases the ocular phenotype is accompanied byadditional features including developmental delay, corpus callosumagenesis, basal ganglia dysmorphism, facial weakness,polyneuropathy. Defects in TUBB3 are the cause of cortical dysplasiacomplex with other brain malformations (CDCBM) [MIM:614039]. CDCBMis a disorder of aberrant neuronal migration and disturbed axonalguidance. Affected individuals have mild to severe mentalretardation, strabismus, axial hypotonia, and spasticity. Brainimaging shows variable malformations of cortical development,including polymicrogyria, gyral disorganization, and fusion of thebasal ganglia, as well as thin corpus callosum, hypoplasticbrainstem, and dysplastic cerebellar vermis. Extraocular musclesare not involved.

Similarity:
Belongs to the tubulin family.

SWISS:
Q13509

Gene ID:
10381

Database links:

Entrez Gene: 10381 Human

Entrez Gene: 22152 Mouse

Entrez Gene: 246118 Rat

Omim: 602661 Human

SwissProt: Q13509 Human

SwissProt: Q9ERD7 Mouse

SwissProt: Q4QRB4 Rat

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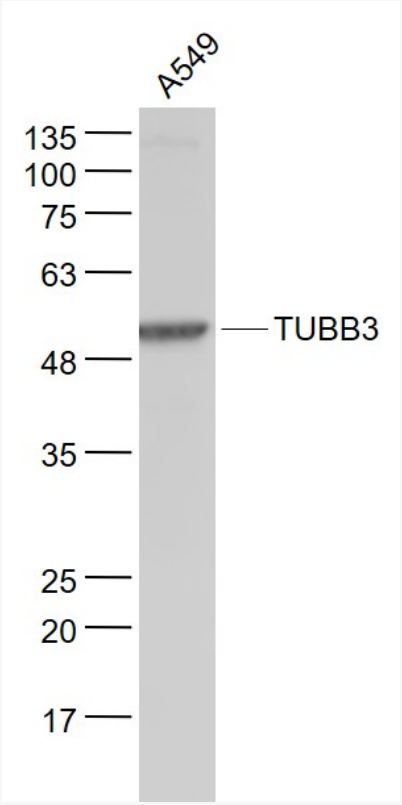
Unigene: 511743 Human

Unigene: 40068 Mouse

Unigene: 43958 Rat

Product Picture



Sample:

A549(Human) Cell Lysate at 30 ug

Primary: Anti- TUBB3 (SLM-33177M) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Mouse IgG at 1/20000 dilution

Predicted band size: 50 kD

Observed band size: 50 kD

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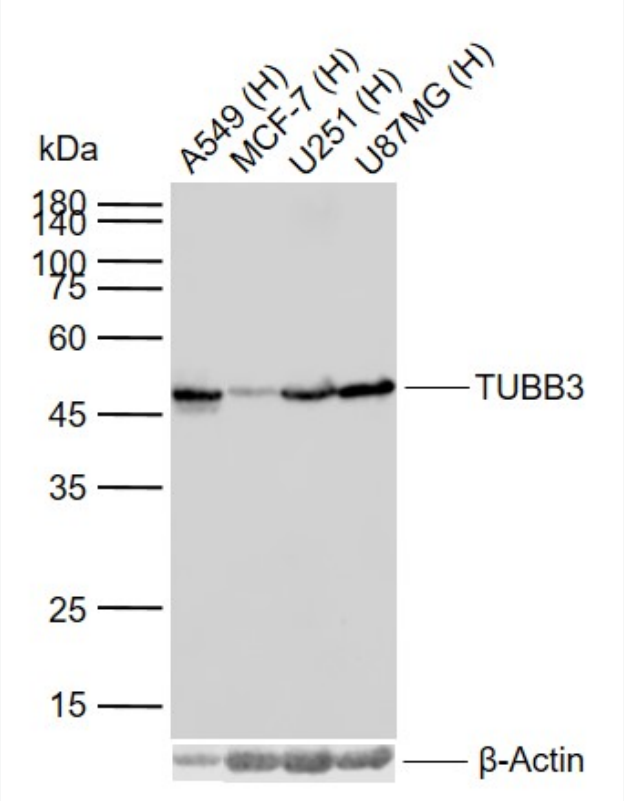

Sample:

Lane 1: Human A549 cell lysates

Lane 2: Human MCF-7 cell lysates

Lane 3: Human U251 cell lysates

Lane 4: Human U87MG cell lysates

Primary: Anti- TUBB3 (SLM-33177M) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti- Mouse IgG at 1/20000 dilution

Predicted band size: 50 kDa

Observed band size: 47 kDa

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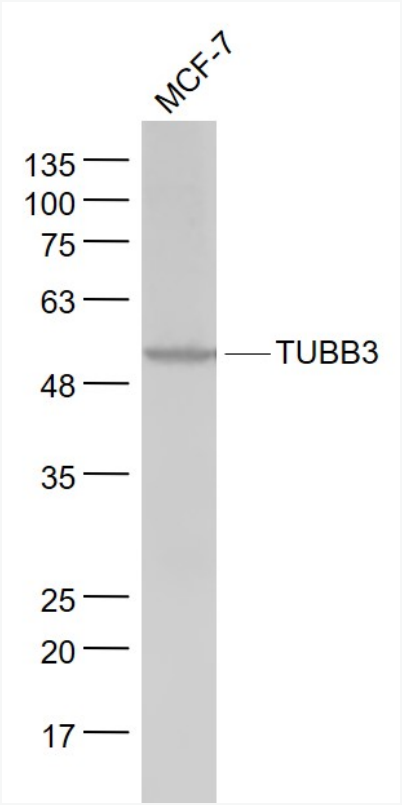

Sample:

MCF-7(Human) Cell Lysate at 30 ug

Primary: Anti- TUBB3 (SLM-33177M) at 1/1000 dilution

Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution

Predicted band size: 50 kD

Observed band size: 50 kD

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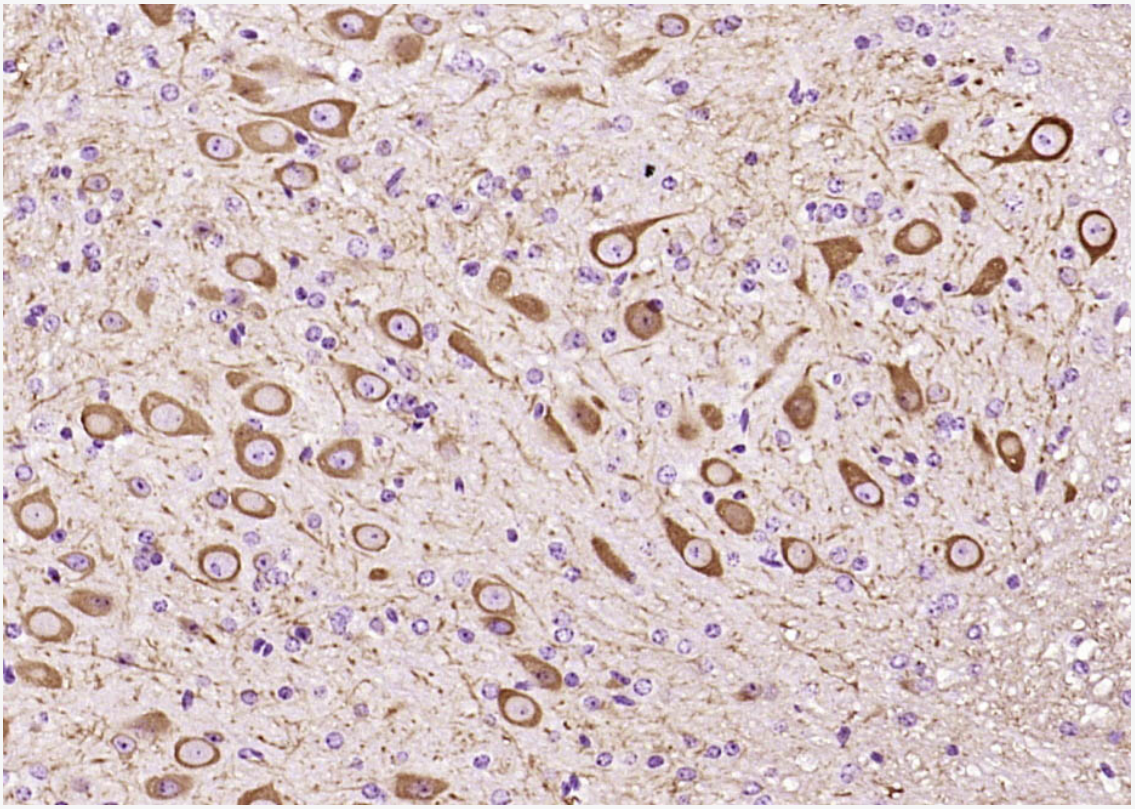

Paraformaldehyde-fixed, paraffin embedded (mouse cerebellum); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3) Polyclonal Antibody, Unconjugated (SLM-33177M) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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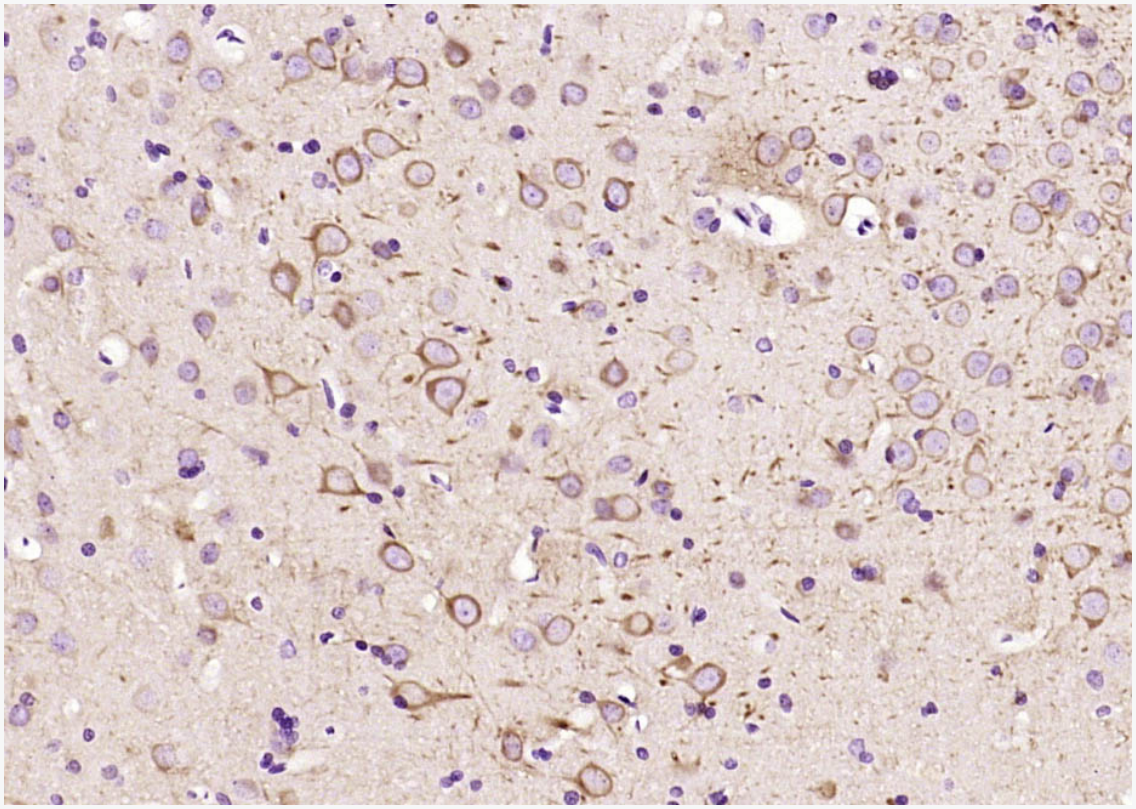

Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3) Polyclonal Antibody, Unconjugated (SLM-33177M) at 1:200 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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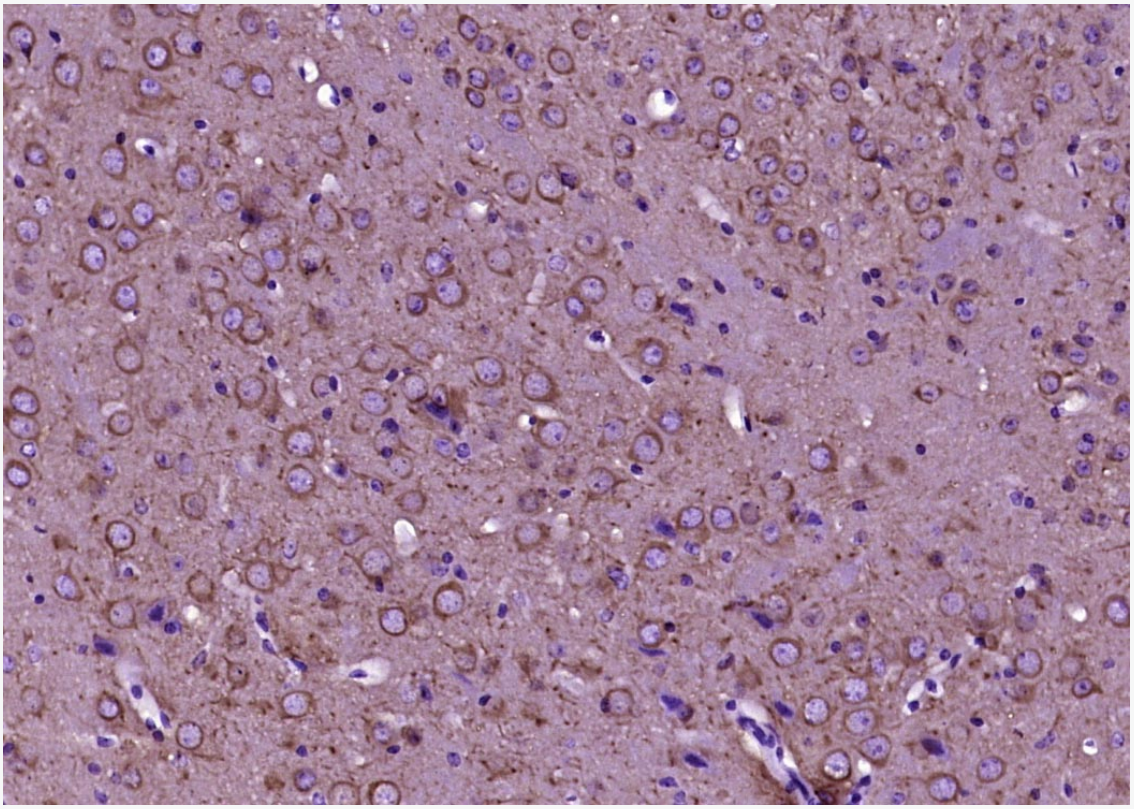

Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3) Monoclonal Antibody, Unconjugated (SLM-33177M) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructionsand DAB staining.

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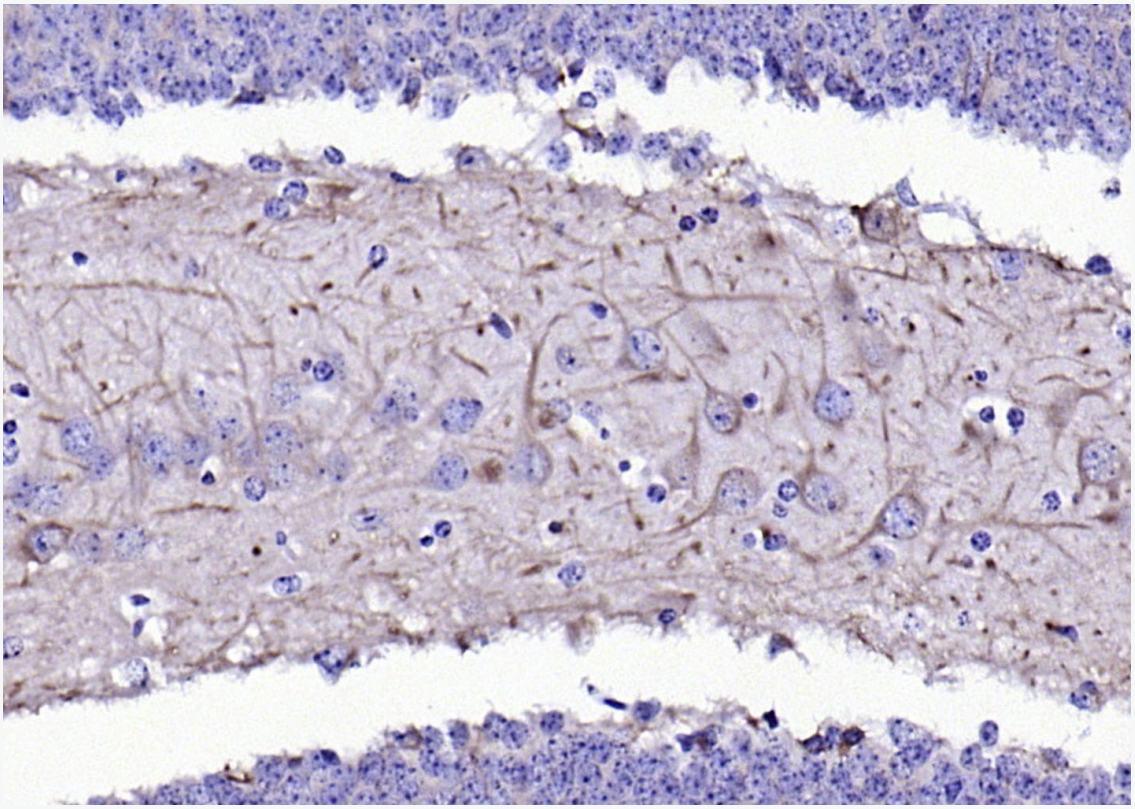

Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3 (Neuronal Marker)) Monoclonal Antibody, Unconjugated (ascites of SLM-33177M 6F12) at 1:2000 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructions and DAB staining.

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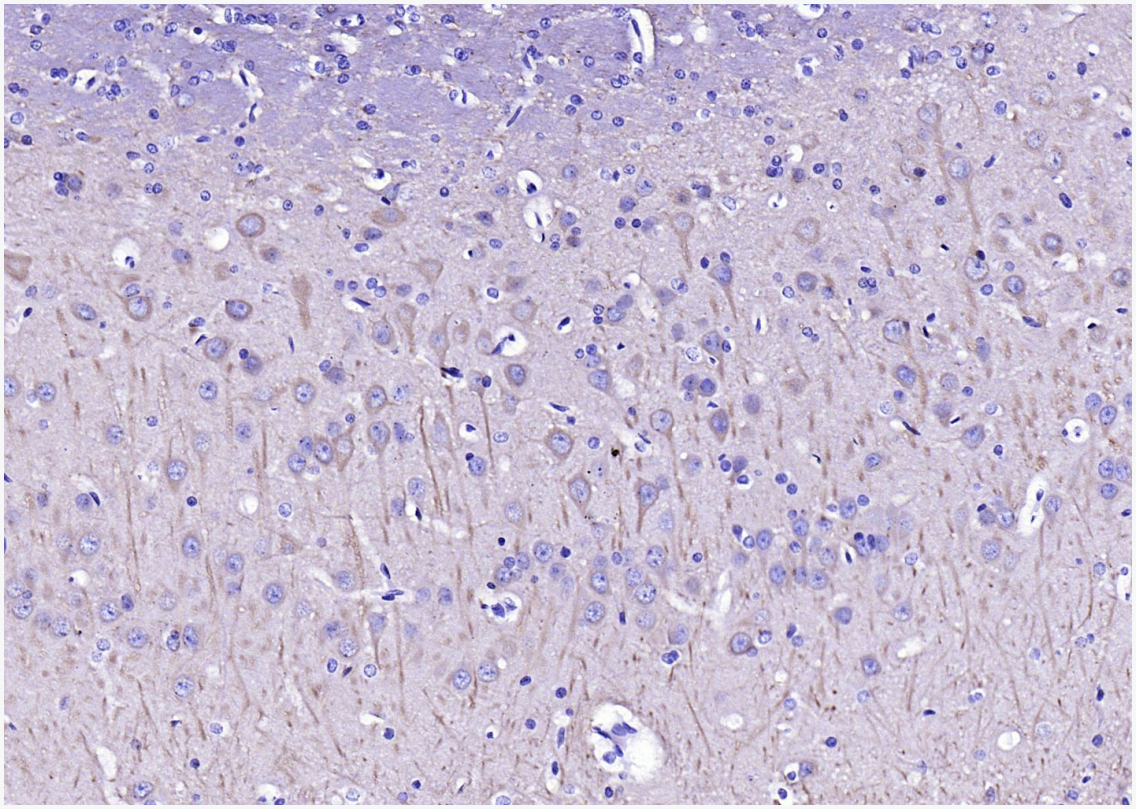

Paraformaldehyde-fixed, paraffin embedded (rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3 (Neuronal Marker)) Monoclonal Antibody, Unconjugated (ascites of SLM-33177M 6F12) at 1:2000 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructions and DAB staining.

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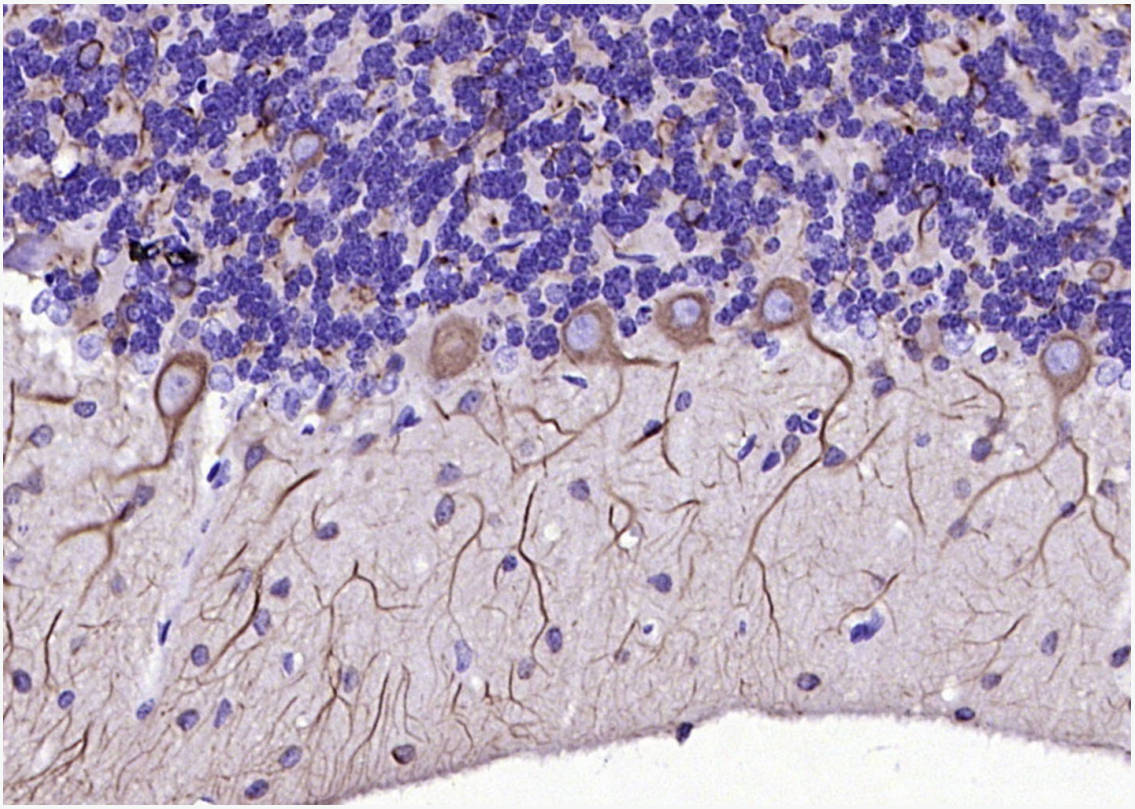

Paraformaldehyde-fixed, paraffin embedded (rat cerebellum); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (TUBB3 (Neuronal Marker)) Monoclonal Antibody, Unconjugated (ascites of SLM-33177M 6F12) at 1:2000 overnight at 4°C, followed by operating according to SP Kit(Mouse) (sp-0024) instructions and DAB staining.