

Purified anti-Tau, 419-433 Antibody

Catalog# / Size	851001 / 25 µg 851002 / 100 µg
Clone	A16097D
Regulatory Status	RUO
Other Names	Microtubule associated protein tau
Isotype	Rat IgG2a, κ
Description	<p>Tau protein promotes microtubule assembly and stability. Tau is abundant in neurons of the central nervous system, and is expressed at low levels in astrocytes and oligodendrocytes. Abnormal hyper-phosphorylation, aggregation, and toxic gain of function of tau is associated with several neurological disorders, including Alzheimer's disease (AD). The major building block of neurofibrillary lesions in AD brains consists of paired helical filaments (PHFs) of abnormally hyperphosphorylated tau. Six isoforms of tau are generated by alternative splicing of the MAPT gene. These isoforms are distinguished by the number of tubulin binding domains, 3 (3R) or 4 (4R), in the C-terminal of the protein and by one (1N), two (2N), or no (0N) inserts in the N-terminal domain. Tau isoforms are differentially expressed during development.</p>

Product Details

Verified Reactivity	Human, Mouse, Rat
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Recombinant C-terminal fragment of human 4R Tau protein encompassing amino acid residues 419-433.
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide.
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	WB - Quality tested IHC-P, Direct ELISA - Verified
Recommended Usage	Each lot of this antibody is quality control tested by Western blotting . For Western blotting, the suggested use of this reagent is 1.0 - 5.0 µg/ml. For immunohistochemical staining on formalin-fixed paraffin-embedded tissue sections, a concentration range of 0.2 - 2.0 µg/ml is suggested. For Direct ELISA, a concentration range of 0.01 - 1 µg/mL is recommended. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This antibody cross-reacts with 3R and 4R Tau isoforms, and recognizes endogenous human and mouse Tau in brain lysates by WB.
RRID	AB_2721764 (BioLegend Cat. No. 851001) AB_2721765 (BioLegend Cat. No. 851002)

Antigen Details

Structure	Unmodified Tau isoforms have an apparent molecular weight ranging from 33-79 kD. Additional high and low molecular weight Tau species have been observed in brain tissues.
Distribution	Tissue distribution: central nervous system, peripheral ganglia and nerves, kidney, skeletal, and heart muscle.

Cellular distribution: cytoskeleton, nucleus, plasma membrane and cytosol.

Function	Tau promotes microtubule assembly and stability. The short tau isoforms allow plasticity of the cytoskeleton whereas the longer isoforms may preferentially play a role in its stabilization.
Interaction	Tau interacts with Sequestosome-1, Peptidyl-prolyl cis-trans isomerase FKBP4, Casein kinase I isoform delta, Serine/threonine-protein kinase Sgk1, Laforin, Alpha-synuclein
Biology Area	Cell Biology, Neurodegeneration, Neuroscience, Protein Misfolding and Aggregation
Molecular Family	Tau
Antigen References	<ol style="list-style-type: none">1. Augustinack JC, <i>et al.</i> 2002. <i>Acta Neuropathol.</i> 103(1):26-35. PubMed.2. Seubert P, <i>et al.</i> 1995. <i>J Biol Chem.</i> 270(32):18917-22. PubMed.3. Dong Y, <i>et al.</i> 2012. <i>PLoS One</i> 7(6):e39386. PubMed.
Gene ID	4137

Related Protocols

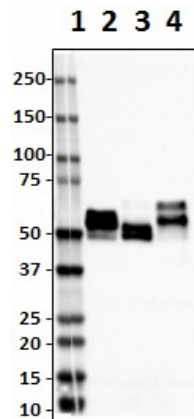
[Western Blotting Protocol](#)

[Immunohistochemistry Protocol for Paraffin-Embedded Sections](#)

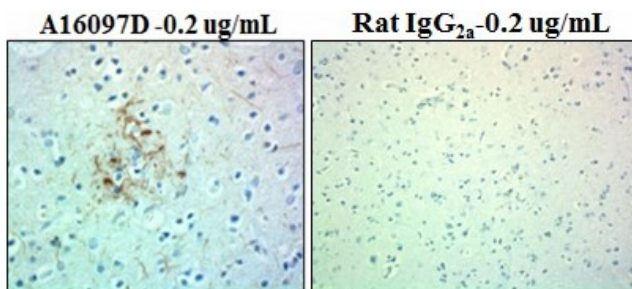
Other Formats

Purified anti-Tau, 419-433, HRP anti-Tau, 419-433, Biotin anti-Tau, 419-433

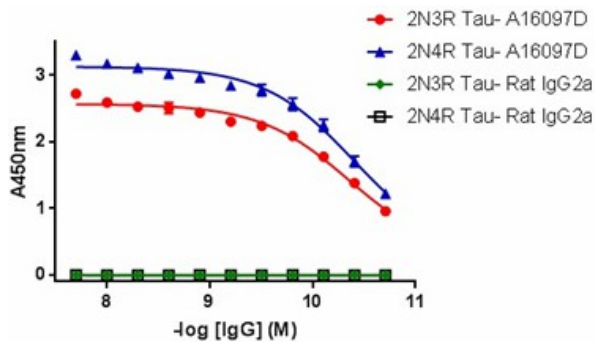
Product Data



Western blot of purified anti-Tau, 419-433 antibody (clone A16097D). Lane 1: Molecular weight marker; Lane 2: 20 µg of human brain lysate; Lane 3: 20 µg of mouse brain lysate; Lane 4: 20 µg of rat brain lysate. The blot was incubated with 1 µg/ml of the primary antibody overnight at 4°C, followed by incubation with HRP-labeled goat anti-rat IgG secondary antibody (Cat. No. 405405). Enhanced chemiluminescence (Cat. No. 426302) was used as the detection system.



IHC staining of anti-Tau, 419-433 antibody (clone A161097D) and rat IgG_{2a} isotype control on formalin-fixed paraffin-embedded Alzheimer's disease brain tissue. Following antigen retrieval using Sodium Citrate, the tissues were incubated with anti-Tau or rat IgG_{2a} at 0.2 µg/ml for 1 hour at room temperature. Biotinylated anti-rat IgG, HRP Streptavidin, and DAB (3,3'-diaminobenzidine) substrate were used as the detection system. Slides were counterstained with hematoxylin.



Direct ELISA of purified anti-Tau, 419-433 antibody (clone A16097D) and rat IgG_{2a} isotype control binding to plate-immobilized recombinant human 2N3R and 2N4R Tau proteins. ELISA was performed by coating wells with 100 ng of each recombinant Tau protein. The wells were then incubated with anti-Tau or rat IgG_{2a} at 37°C for 45 minutes, followed by incubation with horseradish peroxidase labeled goat anti-rat secondary antibody. TMB (3, 3', 5, 5' tetramethylbenzidine) was used as the detection system.

For research use only. Not for diagnostic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

*These products may be covered by one or more Limited Use Label Licenses (see the BioLegend Catalog or our website, www.biolegend.com/ordering#license). BioLegend products may not be transferred to third parties, resold, modified for resale, or used to manufacture commercial products, reverse engineer functionally similar materials, or to provide a service to third parties without written approval of BioLegend. By use of these products you accept the terms and conditions of all applicable Limited Use Label Licenses. Unless otherwise indicated, these products are for research use only and are not intended for human or animal diagnostic, therapeutic or commercial use.

BioLegend Inc., 8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587