

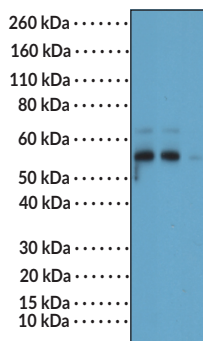
PRODUCT INFORMATION

Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) Item No. 35905

Overview and Properties

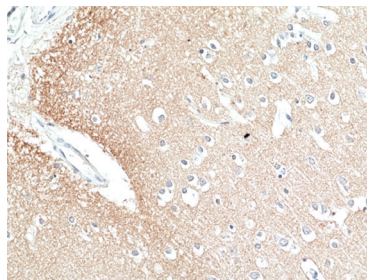
Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	MAPTL, Microtubule-associated Protein Tau, MTBT2, Neurofibrillary Tangle Protein, Paired Helical Filament Tau
Immunogen:	Peptide corresponding to human tau (phospho-Ser ³⁹⁶)
Cross Reactivity:	(+) Tau (phospho-Ser ³⁹⁶); (-) Tau without phosphorylation at Ser ³⁹⁶
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS, with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM461
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:50-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

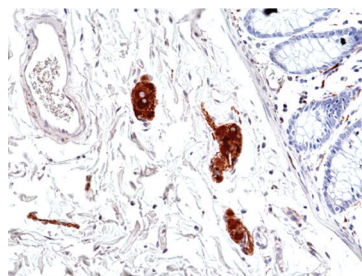


- - + Phosphopeptide
- + - Nonphosphopeptide

WB of mouse brain tissue lysates using Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) at a dilution of 1:1,000. The phosphospecificity of Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) was verified by peptide blocking using a phosphopeptide or nonphosphopeptide targeting residue Ser³⁹⁶.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain tissue using Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) at a dilution of 1:50.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human colon tissue using Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) at a dilution of 1:50.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 01/30/2024

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM

PRODUCT INFORMATION



Description

Tau is a member of the microtubule-associated protein (MAP) family that facilitates microtubule formation in axons.^{1,2} It is primarily expressed in neurons and localized to axons but trace amounts have been observed in glial cells and several peripheral tissues including kidney, lung, and testis. Tau is composed of an N-terminal projection domain that interacts with neurofilaments, cytoplasmic organelles, and neuronal cell membranes and a C-terminal microtubule binding domain that facilitates microtubule polymerization and stabilization. It is encoded by *MAPT* in humans, a 16-exon gene that produces 6 isoforms via alternative mRNA splicing. Mutations in *MAPT* lead to changes in expression of tau isoforms and the formation of insoluble protein aggregates that cause familial frontotemporal dementia (FTD) and parkinsonism linked to chromosome 17 (FTDP-17).³ Tau is subject to post-translational modifications, including phosphorylation, and hyperphosphorylation of tau at serine 396 (phospho-Ser³⁹⁶) is associated with the formation of neurofibrillary tangles and neuronal cell death in postmortem brains from patients with Alzheimer's disease and various mouse models of Alzheimer's disease.³⁻⁵ Cayman's Tau (Phospho-Ser³⁹⁶) Rabbit Monoclonal Antibody (Clone RM461) can be used for immunohistochemistry (IHC) and Western blot applications.

References

1. Buée, L., Bussi re, T., Bu e-Scherrer, V., *et al.* Tau protein isoforms, phosphorylation and role in neurodegenerative disorders. *Brain Res. Rev.* **33**(1), 95-130 (2000).
2. Arendt, T., Stieler, J.T., and Holzer, M. Tau and tauopathies. *Brain Res. Bull.* **126**(Pt 3), 238-292 (2016).
3. P r scoveanu, D.F.V., Pirici, I., Tudoric , V., *et al.* Tau protein in neurodegenerative diseases - a review. *Rom. J. Morphol. Embryol.* **58**(4), 1141-1150 (2017).
4. Chukwu, J.E., Pedersen, J.T., Pedersen, L. ., *et al.* Tau antibody structure reveals a molecular switch defining a pathological conformation of the tau protein. *Sci. Rep.* **8**(1), 6209 (2018).
5. Hanger, D.P., Byers, H.L., Wray, S., *et al.* Novel phosphorylation sites in tau from Alzheimer brain support a role for casein kinase 1 in disease pathogenesis. *J. Biol. Chem.* **282**(32), 23645-23654 (2007).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM