Anti-human TAU Total mAb 7E5

Description:

Tau protein is a microtubule-associated protein mainly found in neurons, that regulates microtubule stability and axonal transport. It is classified as an intrinsically disordered protein, allowing it to adopt multiple conformations and interact with diverse cellular partners. Tau proteins contain numerous potential phosphorylation sites that regulate it´s conformational changes and interactions. In pathological states, especially neurodegenerative disorders, hyperphosphorylation arises, leading to aggregation into neurofibrillary tangles - a hallmark of tauopathies like Alzheimer's disease.

The clone 7E5 is a Monoclonal Mouse antibody against Human Tau all isoform, Microtubule-associated protein tau (MAPT) (Uniprot: B3KTM0).

The antibody is produced exclusively from hybridoma and purified through one-step purification with Protein-A affinity chromatography.

Product-ID:	**INV4000043**
Clone:	7E5
Immunogen:	Animals were immunized with human TAU 441
Host:	Mouse
Clonality:	Monoclonal
Isotype:	IgG1k
Formulation:	Clear Liquid, PBS, pH 7.4
Concentration:	> 1.0 mg/ml
Purity:	> 95% by SDS-PAGE
Sizes available:	0.1 mg and 1.0 mg
Storage:	at - 20 °C (repeated thawing and freezing should be avoided)
Tested application(s):	ELISA, Western Blot, Immunhistochemistry

The product is for research use only and not for use in diagnostic or therapeutic procedures.

Literature:

[1] - Mark S. Forman, Virginia M.-Y. Lee, John Q. Trojanowski. New insights into genetic and molecular mechanisms of brain degeneration in tauopathies, Journal of Chemical Neuroanatomy, Volume 20, Issues 3–4, 2000, Pages 225-244, ISSN 0891-0618, https://doi.org/10.1016/S0891-0618(00)00100-9.

[2] - Alonso A, Zaidi T, Novak M, Grundke-Iqbal I, Iqbal K. Hyperphosphorylation induces self-assembly of tau into tangles of paired helical filaments/straight filaments. Proc Natl Acad Sci U S A. 2001 Jun 5;98(12):6923-8. doi: 10.1073/pnas.121119298. Epub 2001 May 29. PMID: 11381127; PMCID: PMC34454.

[3] - Noble W, Hanger DP, Miller CC, Lovestone S. The importance of tau phosphorylation for neurodegenerative diseases. Front Neurol. 2013 Jul 1;4:83. doi: 10.3389/fneur.2013.00083. PMID: 23847585; PMCID: PMC3696910.

References:

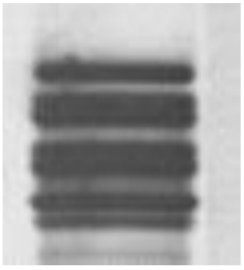
a. Morgado B, Klafki HW, Bauer C, Waniek K, Esselmann H, Wirths O, Hansen N, Lachmann I, Osterloh D, Schuchhardt J, Wiltfang J. Assessment of immunoprecipitation with subsequent immunoassays for the blood-based diagnosis of Alzheimer's disease. Eur Arch Psychiatry Clin Neurosci. 2024 Feb 6. doi: 10.1007/s00406-023-01751-2. Epub ahead of print. PMID: 38316685.

b. Schmidt S, Stapf C, Schmutzler S, Lachmann I, Arendt T, Holzer M, Sonntag M, Morawski M. Aggrecan modulates the expression and phosphorylation of tau in a novel bigenic TauP301L - Acan mouse model. Eur J Neurosci. 2021 Jun;53(12):3889-3904. doi: 10.1111/ejn.14923. Epub 2020 Aug 17. PMID: 32737917.

c. Lewczuk P, Lelental N, Lachmann I, Holzer M, Flach K, Brandner S, Engelborghs S, Teunissen CE, Zetterberg H, Molinuevo JL, Mroczko B, Blennow K, Popp J, Parnetti L, Chiasserini D, Perret-Liaudet A, Spitzer P, Maler JM, Kornhuber J. Non-Phosphorylated Tau as a Potential Biomarker of Alzheimer's Disease: Analytical and Diagnostic Characterization. J Alzheimers Dis. 2017;55(1):159-170. doi: 10.3233/JAD-160448. PMID: 27662295.

InVivo BioTech Services GmbH is certified to ISO 9001 and ISO 13485.

Anti-human TAU Total mAb 7E5
— Supplementary Data

Detection of all 6 TAU isoforms blotted on nitrocellulose by means of mab 7E5.

10 µl of standard TAU ladder (rPeptide) were separated by SDS-PAGE using 8-14% gradient gel and blotted on nitrocellulose 0.45 µm.
After blocking with 5% skim milk powder in TRIS pH 10 mab 7E5 was incubated in blocking solution (1 µg mab/ml) at RT overnight. Bound antibody was detected using Anti-Mouse IgG HRP conjugate and Western blot staining.