INVIVO BioTech Services GmbH a BRUKER company

Anti-human Brain drived Tau mAb 2B8

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.
Studies, aiming to develop AT(N) blood biomarkers, show that plasma total tau poorly correlates with CSF total tau and overlaps across diagnostic groups. This is due to tau production in peripheral tissues (e.g., heart, kidney), which dominate blood tau levels. The key distinction lies in splicing: CNS tau lacks exon 4a, present in PNS isoforms between exons 4 and 5. The anti-human brain-derived TAU mAb 2B8 addresses this by selectively binding the exon 4–5 junction in CNS tau, without recognizing peripheral isoforms containing exon 4a.

The clone 2B8 is a Monoclonal mouse antibody against Human TAU441 (2N4R) all isoforms, TAU total in CSF, brain derived TAU, 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:	**INV4000042**
Clone:	2B8
Immunogen:	Animals were immunized with human TAU441 (2N4R)
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, Immunoprecipitation, SIMOA, Luminex

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.

[4] - Gonzalez-Ortiz F, Turton M, Kac PR, Smirnov D, Premi E, Ghidoni R, Benussi L, Cantoni V, Saraceno C, Rivolta J, Ashton NJ, Borroni B, Galasko D, Harrison P, Zetterberg H, Blennow K, Karikari TK. Brain-derived tau: a novel blood-based biomarker for Alzheimer's disease-type neurodegeneration. Brain. 2023 Mar 1;146(3):1152-1165. doi: 10.1093/brain/awac407. Erratum in: Brain. 2023 Oct 3;146(10):e89-e90. doi: 10.1093/brain/awad208. PMID: 36572122; PMCID: PMC9976981.

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.

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

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— Supplementary Data

Epitope: HVTQARMV, human TAU441 (2N4R) amino acids 121-128