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20A NW Blvd, Suite 112 Nashua, NH 03063

Phone: 617-419-2019 FAX: 617-419-1110

www.EagleBio.com info@eaglebio.com

Tau Protein

Active Human Recombinant Tau441 (2N4R) Wild-Type Protein Preformed Fibrils
Catalog No. SPR-480

Product Name

Tau Protein

Description

Active Human Recombinant Tau441 (2N4R) Wild-Type Protein Preformed Fibrils

Applications

WB, SDS-PAGE, In vivo assay, In vitro assay

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Human

Expression System

E. coli

Amino Acid Sequence

MAEPRQEFEV MEDHAGTYGL GDRKDQGGYT MHQDQEGDTD AGLKESPLQT PTEDGSEEPG SETSDAKSTP TAEDVTAP
LV DEGAPGKQAA AQPHTIPEG TTAEEAGIGD TPSLEDEAAG HVTQARMVSK SKDGTGSDDK KAKGADGKTK IATPRGA
APP GQKGQANATR IPAKTPPAPK TPPSSGEPK SGDRSGYSSP GSPGTPGSRS RTPSLPTPPT REPKKVAVVR TPPKSPSS
AK SRLQTAPVPM PDLKNVSKI GSTENLKHQP GGGKVQIINK KLDLSNVQSK CGSKDNIKHV PGGGSVQIVY KPDLSKV
TS KCGSLGNIHH KPGGGQVEVK SEKLDKDRV QSKIGSLDNI THVPGGGNKK IETHKLTFRE NAKAKTDHGA EIVYKSPVV
S GDTSPRHLSN VSSTGSIDMV DSPQLATLAD EVSASLAKQG L

Purity

>95%

Protein Length

Full Length

Field Of Use

Not for use in humans. Not for use in diagnostics or therapeutics. For in vitro research use only.

Properties

Storage Buffer

10 mM HEPES, 100 mM NaCl pH 7.4

Storage Temperature

-80°C

Shipping Temperature

Dry Ice. Shipping note: Product will be shipped separately from other products purchased in the same order.

Purification

Ion-exchange Purified

Certificate Of Analysis

Certified >95% pure using SDS-PAGE analysis.

Biological Description

Alternative Names

Active tau PFFs, active tau protein preformed fibrils, active tau aggregates, microtubule-associated protein tau, MAPT, MAP, microtubule-associated protein, Paired Helical Filament-Tau, Phf-Tau, Neurofibrillary Tangle Protein, G Protein Beta1/Gamma2 Subunit-Interacting Factor 1, Isoform 4, tubulin-associated unit, MAPT DeltaK280, ΔK280 tau, K18 delta K280 tau, truncated ΔK280 tau

Research Areas

Alzheimer's Disease, Axon Markers, Cell Markers, Cell Signaling, Cytoskeleton, Microtubules, MT Associated Proteins, Neurodegeneration, Neuron Markers, Neuroscience, Tangles & Tau

Cellular Localization

Axolemma, Axolemma Plasma Membrane, Axon, Cell Body, Cell membrane, Cytoplasm, Cytoplasmic Ribonucleoprotein Granule, Cytoplasmic Side, Cytoskeleton, Cytosol, Dendrite, Growth cone, Microtubule, Microtubule Associated Complex, Neurofibrillary Tangle, Neuronal Cell Body, Nuclear Periphery, Nuclear Speck, Nucleus, Peripheral membrane protein, Plasma Membrane, Tubulin Complex

Gene ID

4137

Swiss Prot

P10636

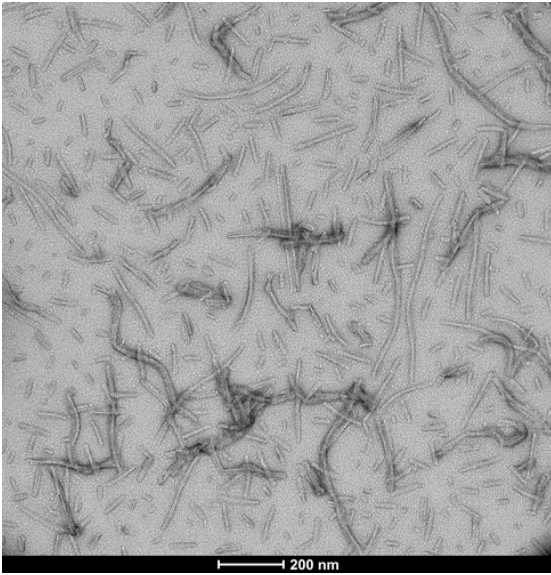
Scientific Background

Alzheimer's Disease (AD) is the most common neurodegenerative disease, affecting 10% of seniors over the age of 65 (1). It was named after Alois Alzheimer, a German scientist who discovered tangled bundles of fibrils where neurons had once been in the brain of a deceased patient in 1907 (2). Tau (tubulin-associated unit) is normally located in the axons of neurons where it stabilizes microtubules. Tauopathies such as AD are characterized by neurofibrillary tangles containing hyperphosphorylated tau fibrils (3). The $\Delta K280$ mutation is associated with frontotemporal dementia and promotes fibrillization into paired helical filaments (PHFs) in the absence of heparin and other inducers (4). K18 is a truncated form of human tau containing only the 4 microtubule binding repeats (5). +

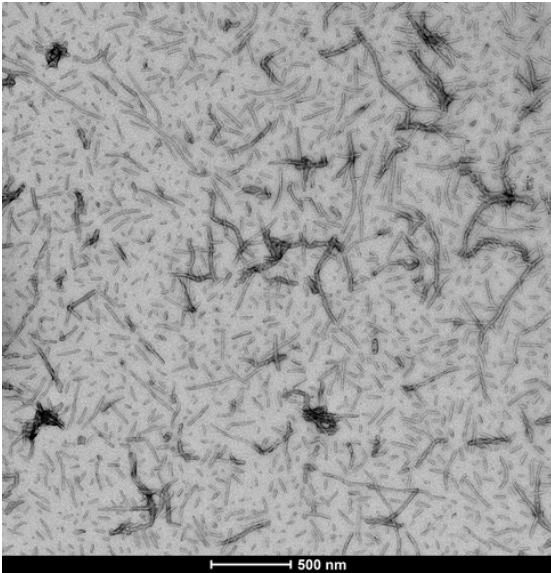
References

1. www.alz.org/alzheimers-dementia/facts-figures
2. Alzheimer, A. Über eine eigenartige Erkrankung der Hirnrinde. Allg. Z. Psychiatr. Psych.-Gerichtl. Med. 64, 146–148 (1907)
3. Matsumoto, G. et al. (2018). Int J Mol Sci. 19, 1497.
4. Von Bergen, M. et al. (2001). J Biol Chem. 276(51):48165-48174.
5. Guo, J. and Lee, M.Y. (2013). FEBS Lett. 587(6): 717-723.

Product Images

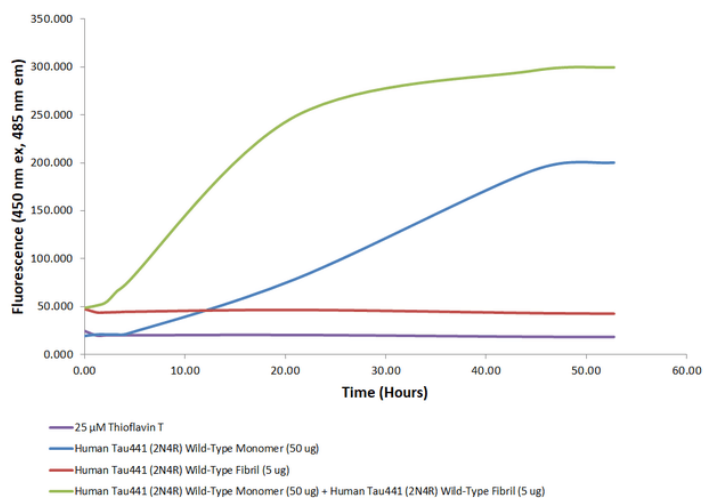


TEM of human recombinant Tau441 (2N4R), Wild-Type Preformed Fibrils (SPR-480)



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Thioflavin T Seeding Assay



Thioflavin T is a fluorescent dye that binds to beta sheet-rich structures, such as those in tau fibrils. Upon binding, the emission spectrum of the dye experiences a red-shift and increased fluorescence intensity. Thioflavin T emission curves show increased fluorescence (correlated to tau aggregation) over time when tau wild-type monomers (SPR-479) are combined with tau wild-type fibrils (SPR-480).

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.

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