Tau-441 (2N4R) Wild-Type Pre-formed Fibrils (Baculovirus/Sf9)

Discovery through Partnership | Excellence through Quality

Human Recombinant Tau-441 (2N4R) Wild-Type Pre-formed Fibrils (Baculovirus/Sf9)
Catalog No. SPR-498

distributed in the US/Canada by:
EAGLE BIOSCIENCES, INC.
20A NW Blvd, Suite 112 Nashua, NH 03063
Phone: 617-419-2019 FAX: 617-419-1110
www.EagleBio.com info@eaglebio.com

Product Name

Tau-441 (2N4R) Wild-Type Pre-formed Fibrils (Baculovirus/Sf9)

Description

Human Recombinant Tau-441 (2N4R) Wild-Type Pre-formed Fibrils (Baculovirus/Sf9)

Applications

WB, SDS PAGE, In vitro Assay

Concentration

Lot/batch specific. See included datasheet.

Conjugates

No tag

Nature

Recombinant

Species

Human

Expression System

Baculovirus (Sf9)

Amino Acid Sequence

MAEPRQEFEVMEDHAGTYGLGDRKDQGGYTMHQDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAKSTPTAEDVTAPLVD
EGAPGKQAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQARMVSKSKDGTGSDDKKAKGADGKTKIATPRGAAPPGQK
GQANATRIPAKTPPAPKTPPSSGEPPKSGDRSGYSSPGSPGTPGSRSRTPSLPTPPTREPKKVAVVRTPPKSPSSAKSRLQTAPV
PMPDLKNVKSKIGSTENLKHQPGGGKVQIINKKLDLSNVQSKCGSKDNIKHVPGGGSVQIVYKPVDLSKVTSKCGSLGNIHHK
PGGGQVEVKSEKLDFKDRVQSKIGSLDNITHVPGGGNKKIETHKLTFRENAKAKTDHGAEIVYKSPVVSGDTSPRHLSNVSSTG
SIDMVDSPQLATLADEVSASLAKQGL

Purity

>95%

Other Resources

Protein Length

Full Length (1-441 aa)

Field Of Use

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

Properties

Storage Buffer

1X PB pH7.4

Storage Temperature

-80ºC

Shipping Temperature

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

Purification

Ion-exchange Purified

Cite This Product

Human Recombinant Tau-441 (2N4R) Wild-Type Pre-formed Fibrils (Baculovirus/Sf9) (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-498)

Certificate Of Analysis

Protein certified >95% pure on SDS-PAGE & Nanodrop analysis. Low endotoxin, <5EU/mL.

Biological Description

Alternative Names

MAPT, intracellular neurofibrillary tangles, NFTs, paired helical filaments, PHFs, 2N4R

Research Areas

Alzheimer's Disease, Neurodegeneration, Neuroscience, Tangles & Tau

Swiss Prot

P10636-8

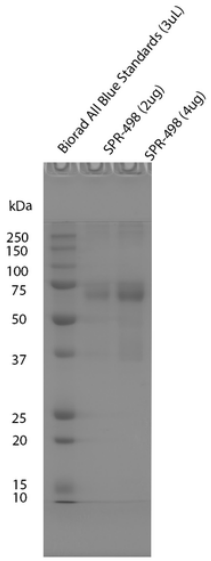
Scientific Background

Brain-specific tau isoforms vary in the number of N-terminal inserts and C- terminal repeat domains due to alternative splicing of exons; the 2N4R isoform of tau is expressed in adult brain yet is absent from the fetal brain (1). Tau (tubulin-associated unit) is normally located in the axons of neurons where it stabilizes microtubules. Tauopathies such as Alzheimer's Disease (AD) are characterized by neurofibrillary tangles containing hyper-phosphorylated tau fibrils (2). Hyper-phosphorylated tau can be generated via expression in the Sf9/Baculovirus system, with up to 20 sites confirmed by mass spectrometry and Western Blots with phospho-specific antibodies(3). Sf9/Baculovirus-expressed Tau 2N4R Pre-Formed Fibrils are generated without heparin.

References

1. Goedert et al. 1989. Multiple Isoforms of Human Microtubule-associated Protein Tau: Sequences and Localization in Neurofibrilary Tangles of Alzheimer's Disease. Neuron. doi: 10.1016/0896-6273(89)90210-9.
2. Iqbal K., Liu F., and Gong C.X. 2016. Tau and neurodegenerative disease: The story so far. Nat. Rev. Neurol. DOI: 10.1038/nrneurol.2015.225
3. Tepper et al. 2014. Oligomer Formation of Tau Protein Hyperphophorylated in Cells. The Journal of Biological Chemistry, DOI 10.1074/jbc.M114.611368

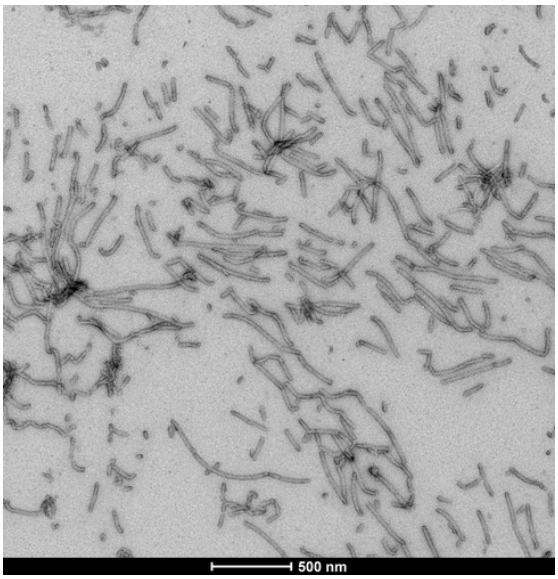
Product Images



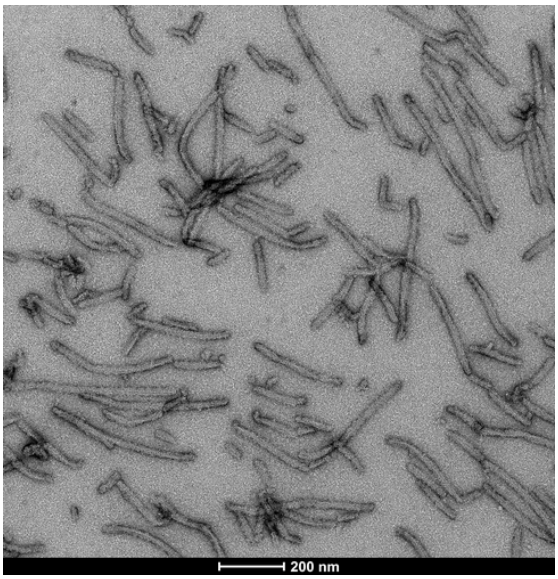
SDS-PAGE of fibrilized Sf9/Baculovirus-expressed hTau wild-type 2N4R on a 12% Tris-Glycine Gel. Lane 1: Biorad All Blue Standards (3uL). Lane 2: Baculovirus expressed hTau 2N4R Wild-Type PFFs (2ug). Lane 3: Baculovirus expressed hTau 2N4R Wild-Type PFFs (4ug)

Site	Modification	Best Ascore	Localization Probability	wt Tau 2N4R (Sf9)
S46	Phospho	15.07	96%	1 / 123
T50	Phospho	24.75	100%	2 / 123
T52	Phospho	28.76	100%	5 / 123
S113	Phospho	34.55	100%	4 / 249
T175	Phospho	32.71	100%	2 / 66
T181	Phospho	34.22	100%	65 / 67
S202	Phospho	35.40	100%	16 / 33
T212	Phospho	12.74	92%	2 / 65
T217	Phospho	52.62	100%	17 / 65
T231	Phospho	79.29	100%	12 / 13
S235	Phospho	30.70	100%	1 / 13
S262	Phospho	22.85	99%	1 / 10
S356	Phospho	58.11	100%	10 / 272
S396	Phospho	31.51	100%	6 / 83
S400	Phospho	11.34	86%	1 / 83
T403	Phospho	10.28	84%	1 / 83
S404	Phospho	13.24	91%	5 / 83
S412	Phospho	14.23	89%	1 / 490
S416	Phospho	16.19	97%	12 / 490
S422	Phospho	51.12	100%	10 / 490

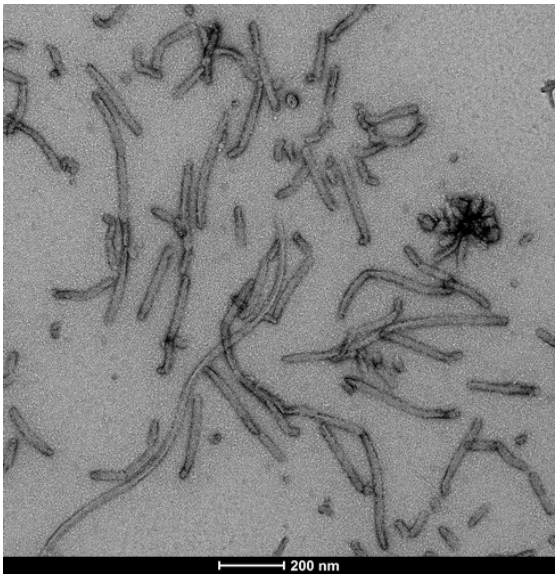
Modified/Total phosphorylation PTM spectrum counts reveal up to 20 phosphorylation sites on human wild-type Tau 2N4R monomers expressed using Baculovirus/Sf9 as determined by mass spectrometry. Protein sequence coverage was 76%. Localization probability cutoff set at ≥80% (yellow) or ≥95% (green)



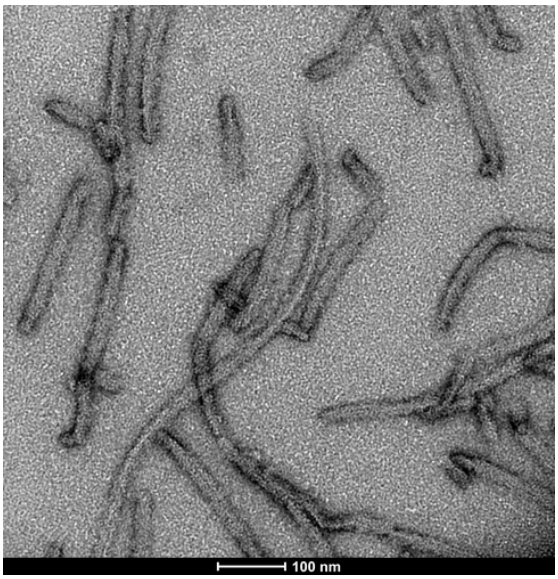
TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 500 nm.



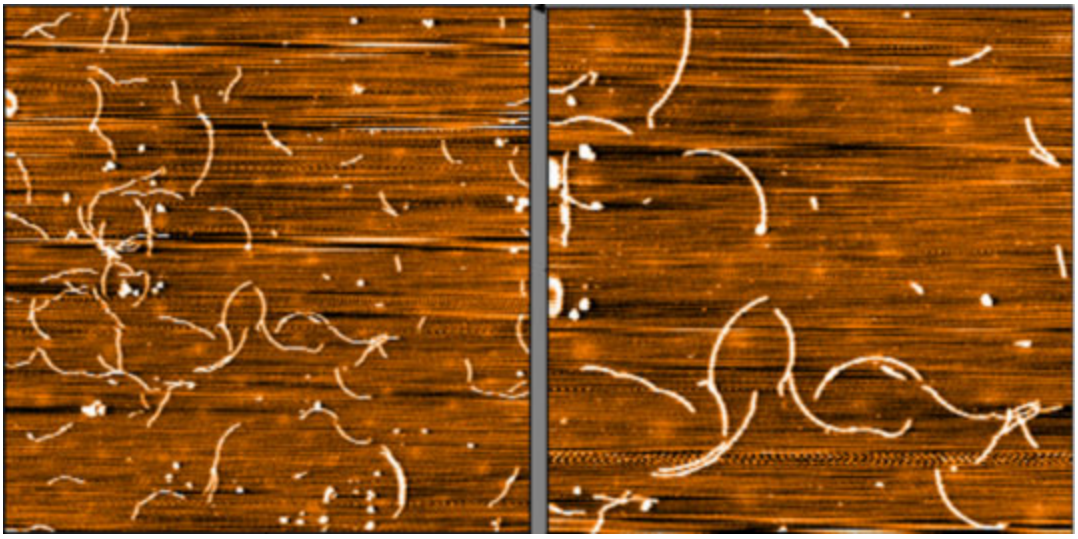
TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 200 nm.



TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 200 nm.



TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 100 nm.



Representative AFM images of fibrils. Samples were diluted to 0.1 mg/mL in dH2O, mounted on freshly cleaved mica, washed, dried and analyzed with tapping mode. Images are 10 x 10 µm x-y (left) and 5 x 5 µm x-y (right) with a z-range of 5 nm

Product Citations (0)

Currently there are no citations for this product.

Reviews

There are no reviews yet.