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Diagnostik & molekulare Diagnostik



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### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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# 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

## 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

MAEPRQEFVEMEDHAGTYGLGDRKDQGGYTMHQDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAKSTPTAEDVTAP  
LVDEGAPGKQAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTVQARMVSKSKDGTGSDDKKAKGADGKTKIATPRGAA  
PPGQKQGANATRIPAKTPPAPKTPSSGEPKSGDRSGYSSPGSPGTPGSRSRTPSLPTPPTREPKKVAVVRTPPKSPSSAK  
SRLQTAPVPMPLKKNVSKIGSTENLKHQPGGGKVQIINKKLDLSNVQSKCGSKDNIKHVPGGGSVQIVYKPVLDLSKVTSK  
CGSLGNIHHKPGGGQVEVKSEKLDKDRVQSKIGSLDNITHVPGGGNKKIETHKLTFRENAKAKTDHGAEIVYKSPVSGD  
TSPRHLSNVSSSTGSIDMVDSPQLATLADEVASLAKQGL

## Purity

>95%

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## Other Resources

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## Protein Length

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Full Length (1-441 aa)

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## Field Of Use

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

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## Properties

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### Storage Buffer

1X PB pH7.4

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### Storage Temperature

-80°C

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### Shipping Temperature

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

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### Purification

Ion-exchange Purified

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### Cite This Product

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

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### Certificate Of Analysis

Protein certified >95% pure on SDS-PAGE & Nanodrop analysis, low endotoxin

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## Biological Description

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### Alternative Names

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

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### Research Areas

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

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### Swiss Prot

P10636-8

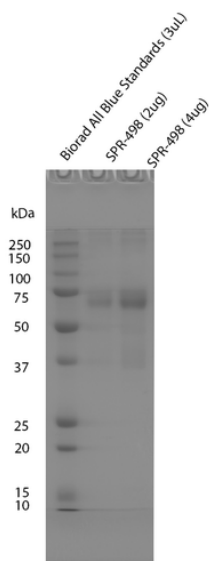
## Scientific Background

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 Neurofibrillary 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 Hyperphosphorylated in Cells. *The Journal of Biological Chemistry*, DOI 10.1074/jbc.M114.611368

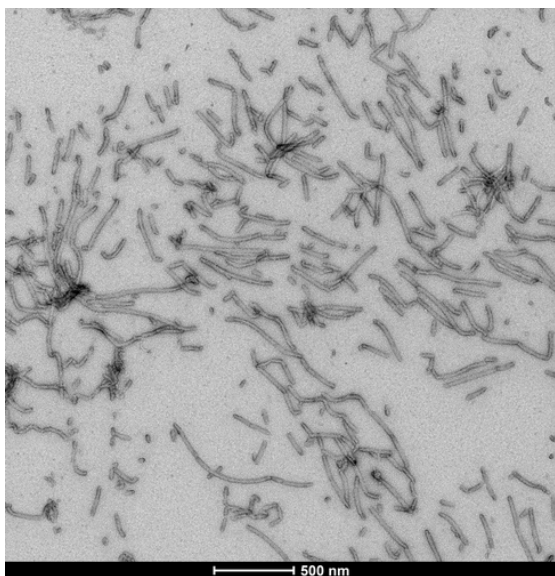
## Product Images



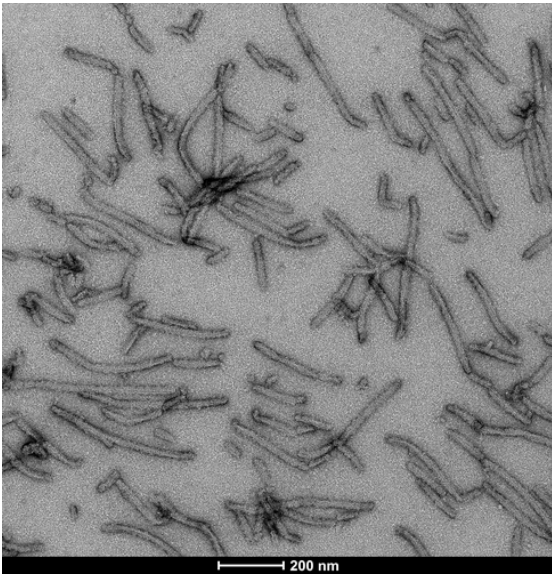
SDS-PAGE of fibrilized Sf9/Baculovirus-expressed hTau wild-type 2N4R on a 12% Tris-Glycine Gel. Lane 1: Biorad All Blue Standards (3uL). Lane 2: Baculovirus expressed hTau 2N4R Wild-Type PFFs (2ug). Lane 3: Baculovirus expressed hTau 2N4R Wild-Type PFFs (4ug)

Site	Modification	Best Score	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

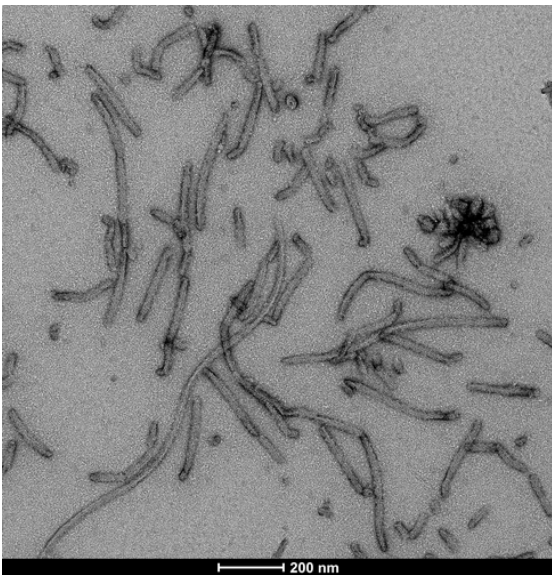
Modified/Total phosphorylation PTM spectrum counts reveal up to 20 phosphorylation sites on human wild-type Tau 2N4R monomers expressed using Baculovirus/Sf9 as determined by mass spectrometry. Protein sequence coverage was 76%. Localization probability cutoff set at  $\geq 80\%$  (yellow) or  $\geq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



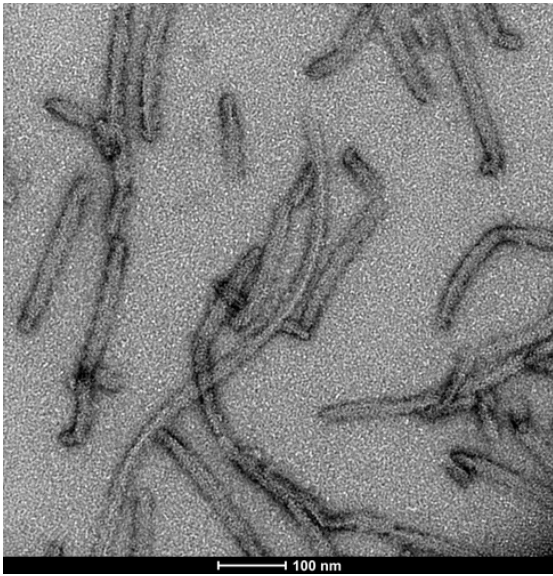
TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 500 nm.



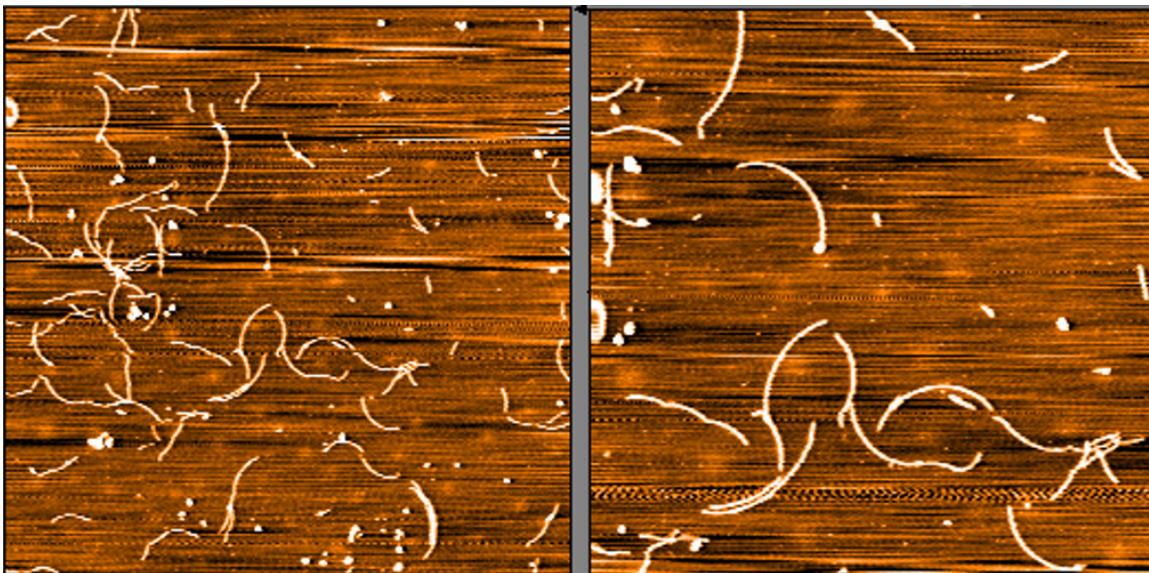
Additional TEM of TEM of Tau-441 (2N4R) Wild-Type Pre-Formed Fibrils (Baculovirus/Sf9). Negative stain transmission electron microscopy images acquired at 80 Kv on carbon coated 400 mesh copper grids using phosphotungstic acid and uranyl acetate stain. Scale bar = 200 nm.



Additional TEM of 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.



Additional TEM of 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 dH<sub>2</sub>O, 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)

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Currently there are no citations for this product.

## Reviews

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There are no reviews yet.