

# Tau-441 (2N4R) Wild-Type Monomers (Baculovirus/Sf9)



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Human Recombinant Tau-441 (2N4R) Wild-Type  
Monomers (Baculovirus/Sf9)  
Catalog No. SPR-496

distributed in the US/Canada by:

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## Product Name

Tau-441 (2N4R) Wild-Type Monomers (Baculovirus/Sf9)

## Description

Human Recombinant Tau-441 (2N4R) Wild-Type Monomers (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

MAEPRQEFVEMEDHAGTYGLGDRKDQGGYTMHQDQEGD TDAGLKESPLQTP TEDGSEEPGSETSDAKSTPTAEDVTAPLVD  
EGAPGKQAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHV TQARMVSKSKDGTGSDDKKAKGADGKTKIATPRGAAPP GQK  
GQANATRIPAKTPPAPKTPSSGEPKSGDRSGYSSPGSPGTPGSR SRTPSLPTPPTREPKKVAVVRTPPKSPSSAKSRLQTAPV  
PMPDLKNVSKIGSTENLKHQPGGGKVQIINKKLDLSNVQSKCGSKDN IKHVPGGGSVQIVYKPV DLSKVT SKCGSLGNIHHK  
PGGGQVEVKSEKLDKDRVQSKIGSLDNITHVPGGGNKKIETHK LTFRENAKAKTDHGAEIVYKSPVWSGDTSPRHLSNV SSTG  
SIDMVDSPQLATLADEV SASLAKQGL

**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**

-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

**Cite This Product**

Human Recombinant Tau-441 (2N4R) Wild-Type Monomers (Baculovirus/Sf9) (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SPR-496)

**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 will readily form oligomers and fibrils in the absence of heparin. +

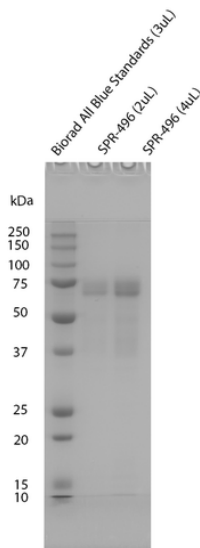
## References

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

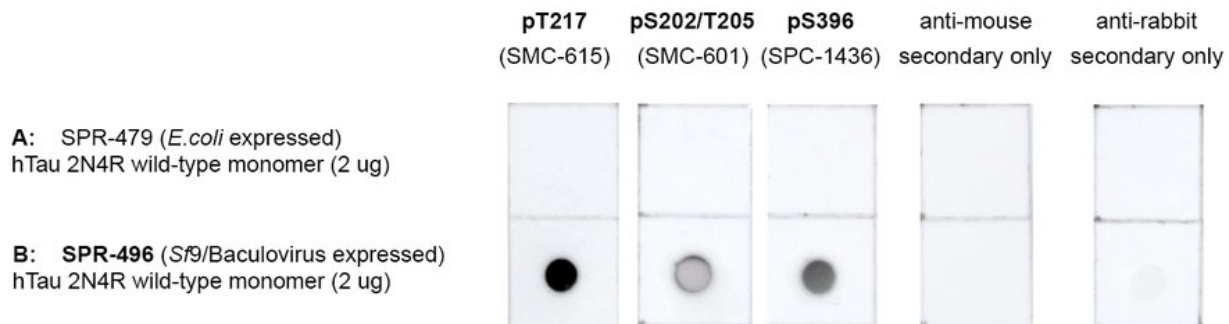
## Product Images

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  $\geq 80\%$  (yellow) or  $\geq 95\%$  (green).



SDS-PAGE of purified 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 (2ug). Lane 3: Lane 2: Baculovirus expressed hTau 2N4R Wild-Type (4ug).



Dot Blot of purified hTau wild-type 2N4R using phospho-specific Tau antibodies comparing *E.coli*-expressed material to Sf9/Baculovirus-expressed material. Protein was blotted on nitrocellulose, incubated with 1:1000 primary antibody and/or 1:4000 secondary antibodies. Exposed 0.6s second.

## 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.