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- Expressversand

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



Discovery through Partnership | Excellence through Quality

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

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

MAEPRQEFVEMEDHAGTYGLGDRKDQGGYTMHQDQEGDTDAGLKESPLQTPTEDGSEEPGSETSDAKSTPTAEDVTAP
LVDEGAPGKQAAAQPHTEIPEGTTAEEAGIGDTPSLEDEAAGHVTQARMVSKSKDGTGSDDKKAKGADGKTKIATPRGAA
PPGQKQANATRIPAKTPPAPKTPSSGEPKSGDRSGYSSPGSPGTPGSRSRTPSLPTPPTREPKKVAVVRTPPKSPSSAK
SRLQTAPVPMPLKKNVSKIGSTENLKHQPGGGKVQIINKKLDLSNVQSKCGSKDNIKHVPGGGSVQIVYKPVLDLSKVTSK
CGSLGNIHHKPGGGQVEVKSEKLDKDRVQSKIGSLDNITHVPGGGNKKIETHKLTFRENAKAKTDHGAEIVYKSPVSGD
TSPRHLSNVSSSTGSIDMVDSPQLATLADEVASLAKQGL

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

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.

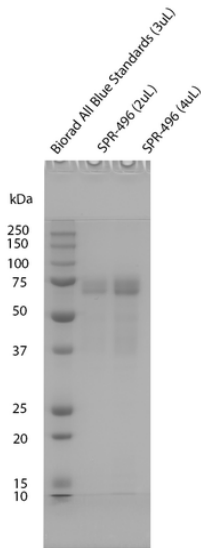
References

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

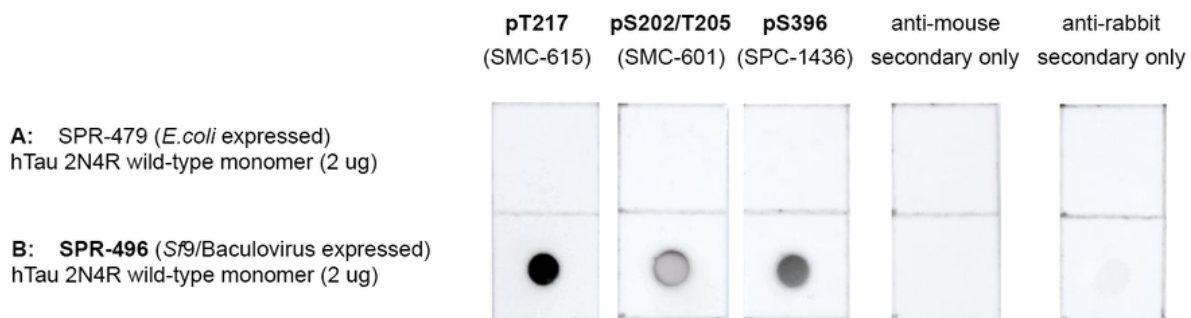
Product Images

Site	Modification	Best Score	Localization Probability	w/ 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)

Currently there are no citations for this product.

Reviews

There are no reviews yet.

