

**Synonym**

DDPAC,FTDP-17,MAPT,MSTD,MTBT1,Tau,PHF-tau,TAU

Source

Human Tau-441 Pre-formed Fibrils, Tag Free(TAU-H5115) is expressed from E. coli cells. It contains AA Met 1 - Leu 441 (Accession # [P10636-8](#)).

Predicted N-terminus: Met 1

Molecular Characterization

Tau(Met 1 - Leu 441)
P10636-8

This protein carries no "tag".

The protein has a calculated MW of 45.8 kDa.

Application**1. Sonication Conditions, Dissolution, Aliquoting, Storage, and Notes for PFF**

Thawing: Thaw PFFs rapidly in a 37 °C water bath, or allow to thaw at room temperature.

Aliquoting: Since PFFs are supplied as a suspension, pipette up and down thoroughly before aliquoting to ensure homogeneity.

Storage: Store at -80 °C at all times; avoid storage at 4 °C or -20 °C, which can induce fibril depolymerization. * α -Syn fibrils cold-denatured to monomers at 0-20 °C and heat-denatured at 60-110 °C.

Sonication: The sonication protocols below are based on cell-based assay conditions.

-Option 1 (Probe Sonicator): Use a probe sonicator (SCIENTZ) at 10% power (-95 W), applying 60 pulses of 0.5 s on/0.5 s off (recommended).

-Option 2 (Ultrasonic Bath): Sonicate in an ultrasonic cleaner (40 kHz, 200-400 W) at 37 °C for 1 hour; avoid performing the treatment at 4 °C or 20 °C.

Note: The above sonication protocols are based on cell-based assays; other applications (e.g., in vivo injections) may require optimization-users should determine their optimal settings for their specific use case.

2. Recommendations for PFF Use in Animal Models

Minimize Freeze-Thaw Cycles: For animal studies, it is recommend to use the PFF at once or aliquot before use to avoid repeated freeze-thaw cycles.

PFF Maintenance During Injections: During stereotaxic injections, keep the sonicated PFFs in a 37 °C water bath to prevent re-aggregation or sedimentation.

Endotoxin

Less than 1.0 EU per μ g by the LAL method / rFC method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Supplied as 0.2 μ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Shipping

This product is supplied and shipped with dry ice, please inquire the shipping cost.

Storage

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

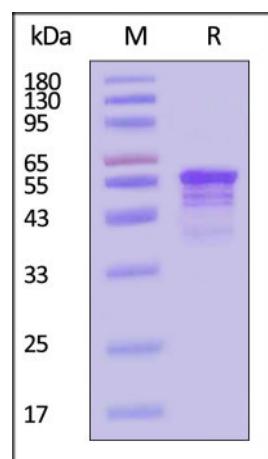
- The product should be stored at -70°C or room temperature for short storage. Do not store fibrils on ice or at 4°C;
- The unsonicated fibril is validated to be stable after storage at -70°C for 1 year under sterile conditions;
- The sonicated fibril should be stored at -70°C for not more than 8 weeks.

SDS-PAGE

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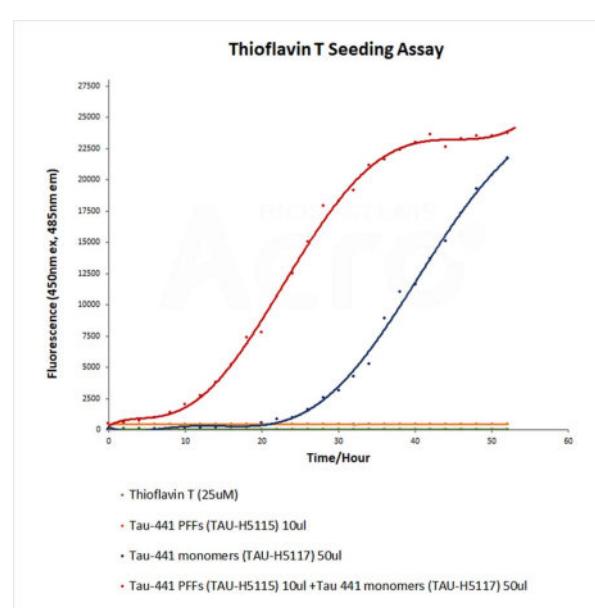


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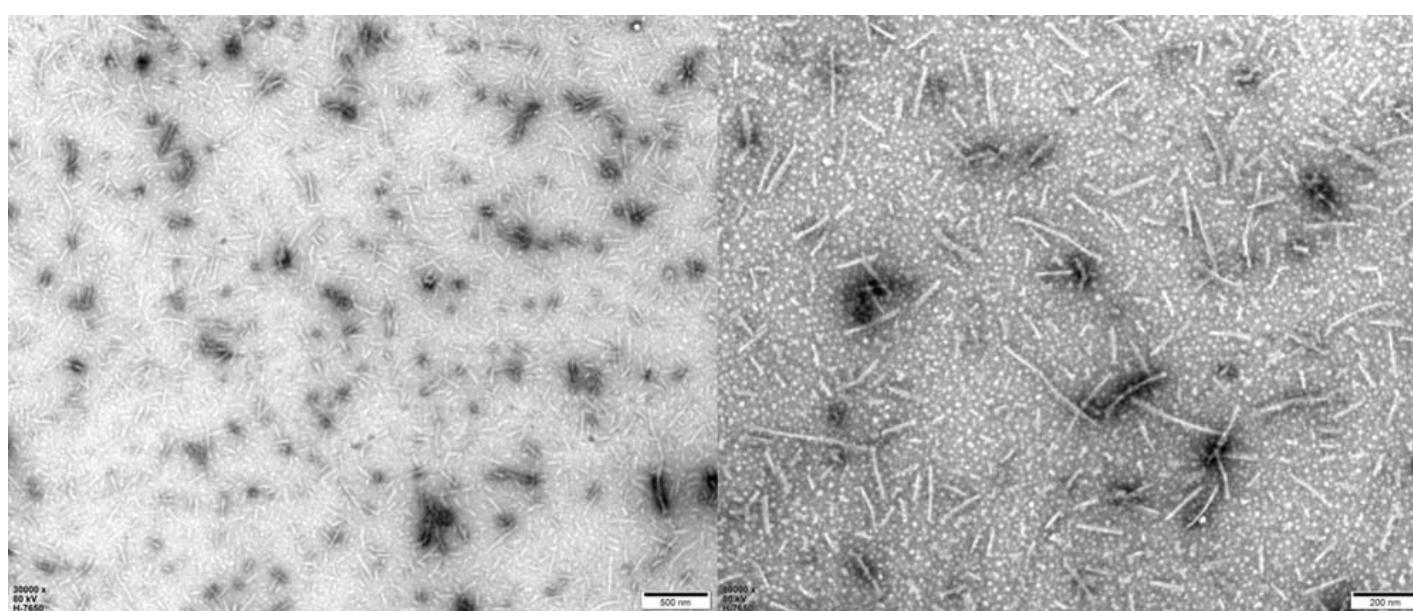
Tau-441 / 2N4R Pre-formed Fibrils monomer on SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ThT Assay



Thioflavin T emission curves show increased fluorescence (correlated to tau aggregation) over time when tau wild-type monomers (Cat. No. TAU-H5117) are combined with tau wild-type Pre-formed Fibrils (Cat. No. TAU-H5115) (Routinely tested).

Electron Microscope

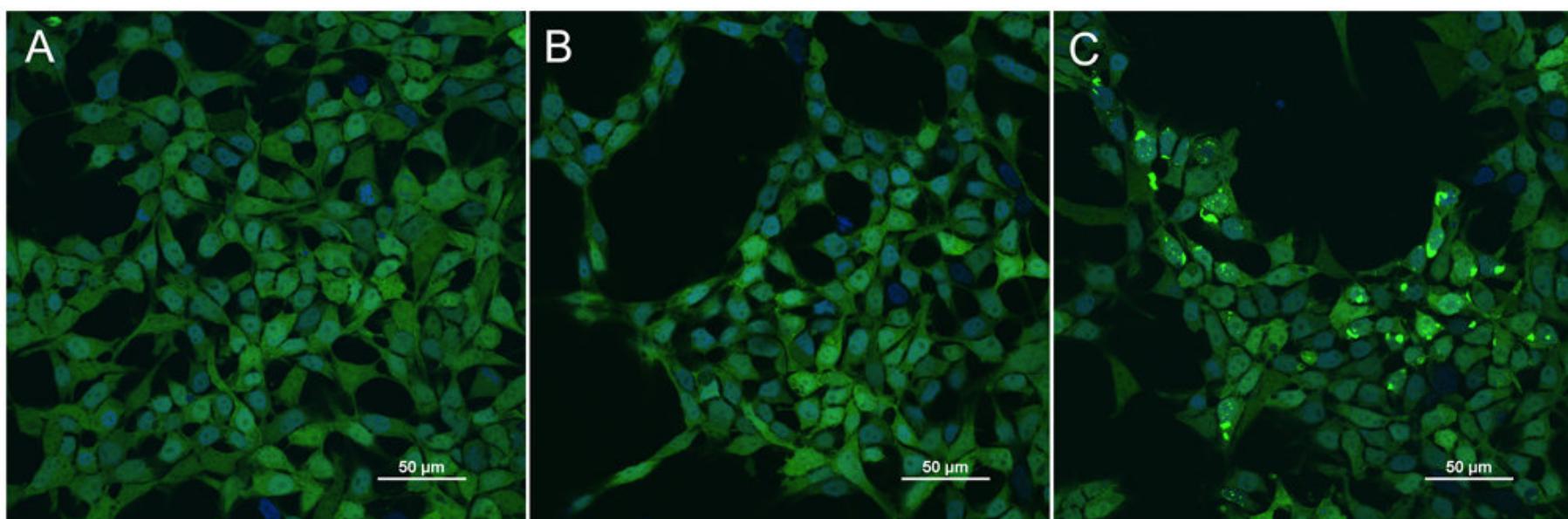


Transmission electron microscopy (TEM) of Tau-441 preformed fibrils (Cat. No. TAU-H5115). Fibril structure is visible on negative stain TEM images of TAU-H5115 (Routinely tested).

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**Bioactivity-CELL BASE**

HEK293/Human Tau (GFP) Stable Cell Line (Cat. No. CHEK-ATP087) were transduced with Human Tau-441 Pre-formed Fibrils, Tag Free (Cat. No. TAU-H5115) and Human Tau-441, Tag Free (Cat. No. TAU-H5117) respectively. The fluorescence of GFP-Tau (Green) and DAPI (Blue) were detected by confocal microscope. A. Lipo2000 transduction. B. Lipo2000 and Human Tau-441, Tag Free transduction. C. Lipo2000 and Human Tau-441 Pre-formed Fibrils, Tag Free transduction. Scale bars, 50 μ m (Routinely tested).

Background

Tau is a microtubule-associated protein, which encodes by the MAPT gene that located on chromosome 17q21. Tau Promotes microtubule assembly and stability, and might be involved in the establishment and maintenance of neuronal polarity. Hyperphosphorylation of the tau protein (tau inclusions, pTau) can result in the self-assembly of tangles of paired helical filaments and straight filaments, which are involved in the pathogenesis of Alzheimer's disease, frontotemporal dementia, and other tauopathies.

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