

## Product Information

### Tau-441 human

recombinant, expressed in HEK 293 cells

Catalog Number **SAE0076**

Storage Temperature  $-20^{\circ}\text{C}$

Synonyms: Neurofibrillary tangle protein, PHF-tau, Paired Helical Filament tau (PHF-tau), Tau-F UniProt P10636-8

### Product Description

Tau proteins are mainly expressed in the neurons of the central nervous system, where they exert roles in stabilizing microtubules, as key components of axonal transport, and signal transduction.<sup>1</sup> Tau proteins are subject to phosphorylation and this phenomenon regulates the association of the Tau protein with the microtubules.<sup>2</sup> Deposits of Alzheimer's disease (AD)-associated proteins, such as hyperphosphorylated Tau, as well as other shared misfolded proteins, such as  $\beta$ -amyloid precursor protein ( $\beta$ -APP), ubiquitin, and various chaperones and protein kinases, are thought to play a pathologic role in the cognitive decline and muscular failure.<sup>3</sup> Malfunctioning of Tau proteins is associated with microtubules disintegration and collapsing of the neuronal transport system.<sup>3</sup> Among other diseases, Tau forms in cerebrospinal fluid are considered a reliable biomarker for progressive supranuclear palsy, where the levels of Tau forms were significantly reduced.<sup>4</sup>

Tau-441 is a member of the Tau family of neuronal microtubule-associated proteins. Six isoforms have been found, and these differ from each other in having either 3 or 4 binding repeats (R) of 31–32 amino acids, and from zero to 3 amino terminal inserts (N) of 29 amino acids each.<sup>5</sup>

This recombinant Tau-441 product is an isoform of human Tau-441, variant 2N4R, isoform Tau-F. It has 4 microtubule binding repeats (R) and 2 amino terminal inserts (N). It is lyophilized from a  $0.22\ \mu\text{m}$  filtered solution in PBS, pH 7.4. It is expressed in HEK 293 cells, and is glycosylated.

Purity:  $\geq 95\%$  (SDS-PAGE)

### Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

### Preparation Instructions

Briefly centrifuge the vial before opening. Reconstitute in water to a concentration of  $0.1\ \text{mg/mL}$ . Do not vortex. This solution can be stored at  $2-8^{\circ}\text{C}$  for at least 1 week. For extended storage, it is recommended to store in working aliquots at  $-20^{\circ}\text{C}$ .

### Storage/Stability

Store the lyophilized product at  $-20^{\circ}\text{C}$ . The product is stable for at least 2 years as supplied.

### References

1. Avila, J. *et al.*, *Physiol. Rev.*, **84**(2), 361-384 (2004).
2. Schraen-Maschke, S. *et al.*, *Biomark. Med.*, **2**(4), 363-384 (2010).
3. Zilka, N. *et al.*, *FEBS Lett.*, **580**(15), 3582-3588 (2006).
4. Christensen, R.A. *et al.*, *J. Biol. Chem.*, **279**(51), 53524-53532 (2004).
5. Borroni, B. *et al.*, *Neurology*, **71**(22), 1796-1803 (2008).

JK,NA,LB,GCY,MAM 02/18-1