

## Anti 4R-tau

### BACKGROUND

Tau is a microtubule-associated protein. In adult human brain, 6 tau isoforms are expressed, which are divided into two groups, 3-repeat (3R) and 4-repeat (4R) tau isoforms. Tau assembles into insoluble, filamentous, and hyperphosphorylated inclusions in many neurodegenerative diseases, and different tau isoforms are accumulated in the diseased brains, namely, 6 tau isoforms in AD, 3R tau isoforms in Pick's disease, and 4R tau isoforms in PSP and CBD. Therefore, isoform-specific tau antibodies are useful tools for immunohistochemical and biochemical studies of tau species in diseased brains. Tau deposited in AD is extensively deamidated at N279. This anti-4R specifically recognizes 4R tau isoforms regardless of deamidation and strongly stained tau in AD brain.

<b>Product type</b>	Primary antibody
<b>Immunogen</b>	synthetic N279D 4R-tau peptide (VQIIDKKLDLSNVQSKC)
<b>Raised in</b>	Rabbit
<b>Myeloma</b>	-
<b>Clone number</b>	-
<b>Isotype</b>	-
<b>Source</b>	Anti-serum
<b>Purification</b>	-
<b>Form</b>	Liquid. Anti-serum with 0.1% NaN <sub>3</sub> as a preservative
<b>Concentration</b>	-
<b>Volume</b>	50 uL
<b>Label</b>	Unlabeled
<b>Specificity</b>	4R-tau isoforms
<b>Cross reactivity</b>	Human, Mouse, Rat
<b>Storage</b>	Store below -20°C. (below -70°C for prolonged storage). Aliquot to avoid cycles of freeze/thaw.

### Application notes Recommended dilutions

- Western blotting: 1/2000 – 1/5000 ( Fig. 1 )
  - Immunohistochemistry: 1:3000 – 1/20000 ( Fig. 2 )  
a higher dilution is recommended for immunohistochemistry.
- Other applications have not been tested.

Optimal dilutions/concentrations should be determined by the end user.

### References

- 1) Hasegawa M, Watanabe S, Kondo H, et al, 3R and 4R tau isoforms in paired helical filaments in Alzheimer's disease. Acta Neuropathol. 2013 Nov 9
- 2) Dan A, Takahashi M, Masuda-Suzukake M, et al. Extensive deamidation at asparagine residue 279 accounts for weak immunoreactivity of tau with RD4 antibody in Alzheimer's disease brain. Acta Neuropathol



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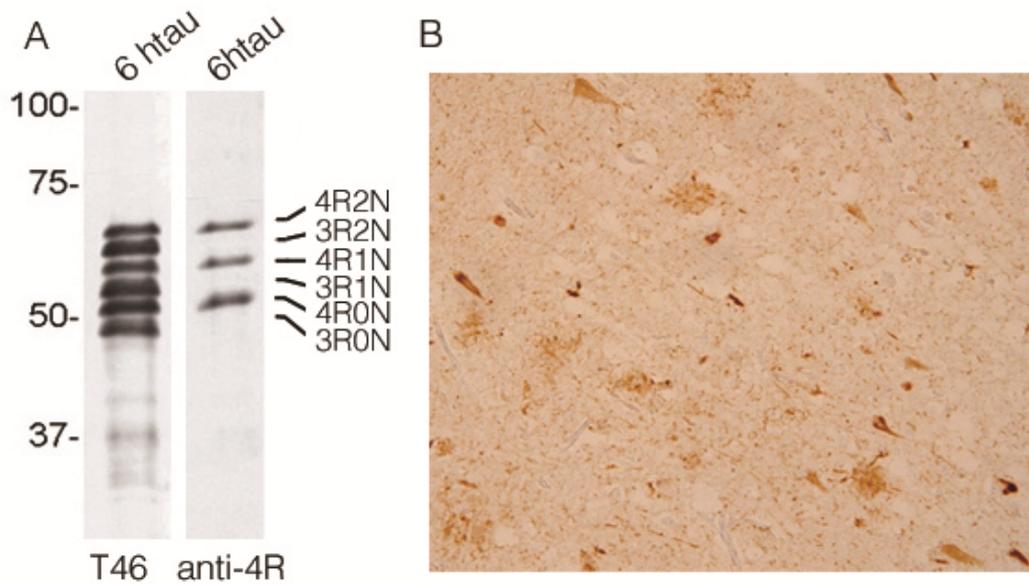
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## ANTIBODY CHARACTERIZATION



(Fig1)

(Fig2)

**Fig1: Immuno blot analysis for 6 kinds of tau isoforms (3-repeat and 4-repeat) with anti total tau (T46) and Anti 4R (TIP-4RT-P01).**

**Fig2: Immuno staining for paraffin embedded section of cerebral cortex prepared from AD brain (retrieved with proteinase K and formic acid)**

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