

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.

Product type	Primary antibody
Immunogen	synthetic N279D 4R-tau peptide (VQIIDKKLDLSNVQSKC)
Raised in	Rabbit
Myeloma	-
Clone number	-
Isotype	-
Source	Anti-serum
Purification	-
Form	Liquid. Anti-serum with 0.1% NaN ₃ as a preservative
Concentration	-
Volume	50 uL
Label	Unlabeled
Specificity	4R-tau isoforms
Cross reactivity	Human, Mouse, Rat
Storage	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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Inspiration for Life Science

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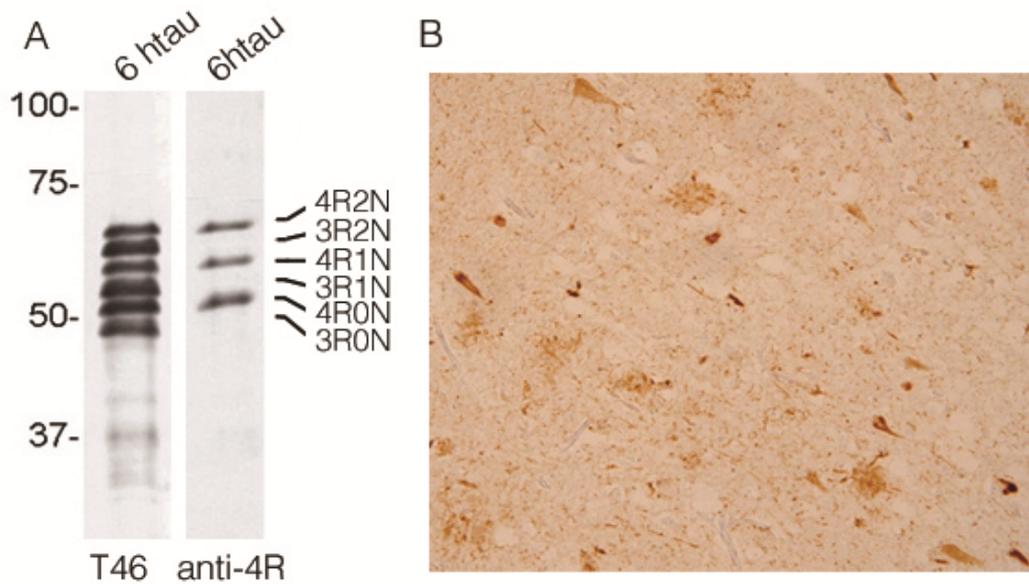
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ANTIBODY CHARACTERIZATION



(Fig1)

(Fig2)

Fig1: Immunoblot 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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