

Product Datasheet

THK5351

Catalog No. **BP-00013** · CAS **1707147-26-9** · Form **free base** · Physical state **solid** · Color **Light yellow to yellow** · Version **1.0**
· Revision **2026-09-04**

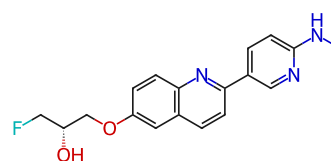
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Target Tau Protein	Research area Neurological Disease
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Molecular formula **C₁₈H₁₈FN₃O₂**

Molecular weight **327.3528**

STRUCTURE



DESCRIPTION

THK5351 can be radiolabeled and used as a radiotracer for in vivo imaging of tau pathology in the brain.

BIOLOGICAL ACTIVITY

In Vitro

Aggregated tau protein is a major neuropathological substrate central to the pathophysiology of neurodegenerative diseases such as Alzheimer's disease (AD). 18F-THK5351 binds to Alzheimer disease hippocampal homogenates with high affinity (K_d=2.9 nM; maximum number of binding sites=368.3 pmol/g tissue). It has fast dissociation from white-matter tissue. The THK5351 binding amount correlates with the amount of tau deposits in tissue.

In Vivo

THK5351 exhibits favorable pharmacokinetics and no defluorination in mice. 18F-THK5351 enters the brain immediately after intravenous injection and shows a fast washout from the brain. At 0.1 and 1 mg/kg, no animals died and no treatment-related changes in any animal are noted in clinical observations, body weight measurement, and pathologic examination[1]. Autoradiography in the brain sections of patients with PSP demonstrates [3H]THK-5351 binding to tau deposits with a high selectivity. Although patients with PSP exhibits no remarkable [18F]THK-5351 retention in the temporal cortex, significantly higher tracer retention is observed in the globus pallidus and midbrain.

SOLUBILITY

Soluble in DMSO : 50 mg/mL

REFERENCES

[1]. Harada R, et al. 18F-THK5351: A Novel PET Radiotracer for Imaging Neurofibrillary Pathology in Alzheimer Disease. J Nucl Med. 2016 Feb;57(2):208-14.

[2]. Ishiki A, et al. Tau imaging with [18 F]THK-5351 in progressive supranuclear palsy. Eur J Neurol. 2017 Jan;24(1):130-136.

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