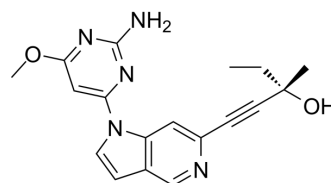


## TTBK1-IN-1

<b>Cat. No.:</b>	HY-134968
<b>CAS No.:</b>	2735015-60-6
<b>Molecular Formula:</b>	C <sub>18</sub> H <sub>19</sub> N <sub>5</sub> O <sub>2</sub>
<b>Molecular Weight:</b>	337.38
<b>Target:</b>	Tau Protein
<b>Pathway:</b>	Neuronal Signaling
<b>Storage:</b>	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### BIOLOGICAL ACTIVITY

<b>Description</b>	TTBK1-IN-1 is a potent, selective and brain-penetrant tau tubulin kinase 1 (TTBK1) inhibitor with an IC <sub>50</sub> of 2.7 nM. TTBK1-IN-1 can be used for the research of alzheimer's disease and related tauopathies <sup>[1]</sup> .
<b>In Vitro</b>	In primary mouse neuronal cultures at DIV14, and analysis of neurite branching is used as a surrogate of neuron health. At acute timepoints (up to 1 h following administration), TTBK1-IN-1 (0.0625-100 μM; 1 hour) has no effect on neurite length when tested up to 100 μM. At chronic effects test, TTBK1-IN-1 (0.0625-100 μM; 6-24 hours) cause a significant decrease in neurite length at the 50 and 100 μM concentrations beginning at 12-18 h following treatment <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	TTBK1-IN-1 (intraperitoneal injection; 2.5, 7, 20, 60, and 180 mg/kg; 5 min prior to isoflurane treatment) significantly decreases in vivo tau phosphorylation at disease-relevant sites at 180 mg/kg. And there is a trend indicating a dose-responsive effect on tau phosphorylation levels at Ser 422 (20 mg/kg, 21% decrease and 60 mg/kg, 60% decrease, respectively, in tau phosphorylation at Ser 422 vs vehicle-treated control) in isoflurane-induced hypothermia mice model <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

[1]. Tamara Halkina, et al. Discovery of Potent and Brain-Penetrant Tau Tubulin Kinase 1 (TTBK1) Inhibitors that Lower Tau Phosphorylation In Vivo. J Med Chem. 2021 May 13;64(9):6358-6380.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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