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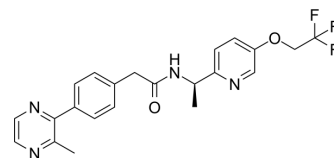
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TTA-A8

Cat. No.:	HY-14232
CAS No.:	1146395-46-1
Molecular Formula:	C ₂₂ H ₂₁ F ₃ N ₄ O ₂
Molecular Weight:	430.42
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	TTA-A8 (Compound 13) is a short-acting T-type calcium channel antagonist with oral activity, exhibiting an IC ₅₀ value of 31.3 nM in the FLIPR depolarization assay. TTA-A8 possesses favorable pharmacokinetic properties, making it suitable for research on epilepsy and sleep ^[1] .																																												
In Vivo	<p>TTA-A8 (3 mg/kg; p.o.; single dose) effectively shortened the duration of epileptic seizures in Wistar albino rats with genetic absence epilepsy. TTA-A8 (1-10 mg/kg; p.o.; single dose) significantly suppressed active wake and increased delta wave sleep in SD rats^[1].</p> <p>TTA-A8 (5 mg/kg; p.o.; single dose) exhibited moderate to high plasma clearance (CL_p), low to moderate distribution volume (V_{ss}), and short half-life (T_{1/2}) across three preclinical species (rat, dog, rhesus)^[1].</p> <p>Pharmacokinetic parameters in rat, dog, rhesus^[1]</p> <table border="1"> <thead> <tr> <th>species</th> <th>administration</th> <th>dosage</th> <th>CL (predicted)^a (mL/min/kg)</th> <th>CL_p (observed)^b (mL/min/kg)</th> <th>T_{1/2}(h)</th> <th>V_{ss} (L/kg)</th> <th>F (%)</th> <th>plasma PB (%) unbound^b</th> </tr> </thead> <tbody> <tr> <td>rat</td> <td>p.o.</td> <td>5 mg/kg</td> <td>8</td> <td>30.3</td> <td>0.24</td> <td>0.59</td> <td>71</td> <td>12.3</td> </tr> <tr> <td>dog</td> <td>p.o.</td> <td>5 mg/kg</td> <td>13</td> <td>11.8</td> <td>0.81</td> <td>0.36</td> <td>23</td> <td>15.5</td> </tr> <tr> <td>rhesus</td> <td>p.o.</td> <td>5 mg/kg</td> <td>22</td> <td>19.3</td> <td>0.53</td> <td>0.74</td> <td>5</td> <td>14.6</td> </tr> </tbody> </table> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>									species	administration	dosage	CL (predicted) ^a (mL/min/kg)	CL _p (observed) ^b (mL/min/kg)	T _{1/2} (h)	V _{ss} (L/kg)	F (%)	plasma PB (%) unbound ^b	rat	p.o.	5 mg/kg	8	30.3	0.24	0.59	71	12.3	dog	p.o.	5 mg/kg	13	11.8	0.81	0.36	23	15.5	rhesus	p.o.	5 mg/kg	22	19.3	0.53	0.74	5	14.6
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REFERENCES

[1]. Yang Z Q, et al. Short-acting T-type calcium channel antagonists significantly modify sleep architecture in rodents[J]. ACS Medicinal Chemistry Letters, 2010, 1(9): 504-509.

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

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