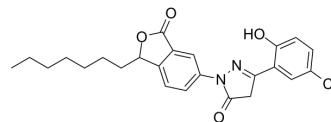


MAO-B-IN-21

Cat. No.:	HY-149984
CAS No.:	2956426-18-7
Molecular Formula:	C ₂₄ H ₂₅ ClN ₂ O ₄
Molecular Weight:	440.92
Target:	Monoamine Oxidase
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	MAO-B-IN-21 is an excellent MAO-B inhibitor with antioxidant activity and anti-A β aggregation activity. MAO-B-IN-21 also exhibits metal-ion chelating ability, anti-neuroinflammation (NO, TNF- α), neuroprotective activity and BBB permeability. MAO-B-IN-21 significantly improves the memory and cognitive impairment in A β 1-42 induced Alzheimer's disease mice model ^[1] .																		
IC₅₀ & Target	MAO-B																		
In Vitro	MAO-B-IN-21 (37.5 μ M in methanol) blocks Cu ²⁺ -induced ROS production, due to metal-chelating property and/or its antioxidant capacity to capture the free radicals from Cu ²⁺ -Ascorbate redox system ^[1] . MAO-B-IN-21 (25 μ M; 24 h; 37 \square) inhibits self-induced A β ₁₋₄₂ aggregation and disaggregate self-induced A β ₁₋₄₂ fibrils ^[1] . MAO-B-IN-21 (2.5-25 μ M; 24 h) inhibits ROS production in LPS-stimulated BV-2 microglia cells ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.																		
In Vivo	MAO-B-IN-21 (30 mg/kg; ig; single dose) could cross the BBB easily in Balb/C mice ^[1] . MAO-B-IN-21 (8 mg/kg and 32 mg/kg; ig; single dose) shortenes the escape latency time (ELT), reduced A β ₁₋₄₂ level, indicating the improvement in learning and memory ability in A β -induced AD mice model ^[1] . Pharmacokinetic Analysis in Balb/C mice ^[1] <table border="1" data-bbox="345 1480 1279 1705"> <thead> <tr> <th>Tissue</th> <th>T_{1/2}</th> <th>T_{max}</th> <th>C_{max}</th> <th>AUC_{0-t}</th> <th>AUC_{brain/plasma}</th> </tr> </thead> <tbody> <tr> <td>Plasma</td> <td>1.15 h</td> <td>0.5 h</td> <td>1539 ng/mL</td> <td>2941 ng-h/mL</td> <td>0.69</td> </tr> <tr> <td>Brain</td> <td>2.07 h</td> <td>1.0 h</td> <td>922.7 ng/g</td> <td>2032.5 ng-h/g</td> <td></td> </tr> </tbody> </table>	Tissue	T _{1/2}	T _{max}	C _{max}	AUC _{0-t}	AUC _{brain/plasma}	Plasma	1.15 h	0.5 h	1539 ng/mL	2941 ng-h/mL	0.69	Brain	2.07 h	1.0 h	922.7 ng/g	2032.5 ng-h/g	
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REFERENCES

[1]. Cong S, et al. Discovery of novel 5-(2-hydroxyphenyl)-2-phthalide-3(3H)-pyrazolones as balanced multifunctional agents against Alzheimer's disease. Eur J Med Chem.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA