FTEAA

Cat. No.: HY-151094

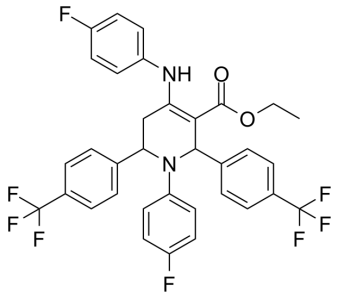
Molecular Formula: $C_{34}H_{26}F_8N_2O_2$

Molecular Weight: 646.57

Target: Monoamine Oxidase

Pathway: Neuronal Signaling

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

FTEAA is a 4-styrylpiperidine inhibitor. FTEAA exhibits potent inhibitory effect towards both monoamine oxidase with IC_{50}s of 0.52 μM (MAO-A), 1.02 μM (MAO-B), respectively. MAO inhibitors can be used for cardiovascular, neurological and oncological disorders research[1][2].

IC_{50} & Target

MAO-A	MAO-B
0.52 μM (IC_{50})	1.02 μM (IC_{50})

In Vitro

MAO-A and MAO-B act function to lower central nervous system (CNS) concentration of monoamines, regulate the amount and activity of available monoamines[1].

If dopamine levels are too high, MAO levels will increase to compensate. If serotonin levels are too low, then MAO activity will decrease to leave adequate serotonin supplies for the CNS to function optimally[1].

FTEAA inhibits MAO-A and MAO-B with micromolar scale IC_{50}s of 0.52 and 1.02 μM, respectively[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

FTEAA exhibits total clearance of 0.446 log/mL/min/kg, and the tolerable dose is prescribed to be 0.513 log mg/kg/day[2].

Predicted Pharmacokinetic Analysis of FTEAA[2]

Intestinal Absorption (%)	Total Clearance (log/mL/min/kg)	Max. Tolerable Dose(log mg/kg/day)	RO5 Rule[a]
95.664	0.812	0.493	yes

[a] : the molecular weight of the drug must not exceed 500 g/mol, hydrogen bond donors must be under five, hydrogen bond acceptors must essentially be less than ten, its lipophilicity (log P) should not cross the digit five, and the number of rotatable bonds must be less than 10.

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REFERENCES

[1]. Schwartz TL, et al. A neuroscientific update on monoamine oxidase and its inhibitors. CNS Spectr. 2013 Dec;18 Suppl 1:25-32; quiz 33.

[2]. Bilal AK, et al. Exploring Highly Functionalized Tetrahydropyridine as a Dual Inhibitor of Monoamine Oxidase A and B: Synthesis, Structural Analysis, Single Crystal XRD, Supramolecular Assembly Exploration by Hirshfeld Surface Analysis, and Computational Studies. ACS Omega. 2022 Aug.

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