

PIPE-3297

Chemical Properties

CAS No. :

Formula: C₂₃H₃₀N₂O

Molecular Weight:

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	PIPE-3297 (compound 25) is a selective kappa opioid receptor (KOR) agonist that activates the G protein signaling pathway with an EC ₅₀ of 1.1 nM and exhibits low β -arrestin-2 recruitment activity (10%). Additionally, PIPE-3297 promotes myelination and has anti-inflammatory properties.
Targets(IC ₅₀)	Opioid Receptor
In vitro	PIPE-3297 (0.5-1 μ M) triggers myelination and promotes the differentiation of oligodendrocyte precursor cells (OPC) into oligodendrocytes (OL). However, PIPE-3297 is cardiotoxic, inhibiting the hERG potassium ion channel with an efficiency of 72% at 3 μ M, and demonstrates instability in liver microsomes.
In vivo	Administering a single subcutaneous dose of PIPE-3297 (30 mg/kg) leads to a 90% occupancy of KOR in the CNS, with brain concentrations reaching 12.5 μ M. In C57BL/6 mice, there is no evidence of KOR-mediated hypokinesia. In the same mouse model, PIPE-3297 induces KOR-dependent differentiation of OPCs into mature OL cells. Furthermore, treatment with PIPE-3297 (3 and 30 mg/kg, subcutaneously, for 23 days) alleviates MOG-induced autoimmune encephalomyelitis (EAE) in C57BL/6 mice.

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