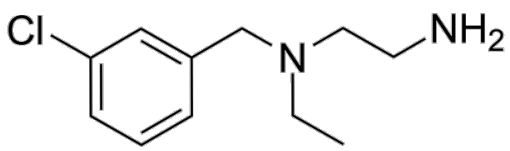
Product Data Sheet

Product Name: FP802
Cat. No.: GC79533

Chemical Properties

Cas. No.	61694-81-3		
Formula	$C_{11}H_{17}ClN_2$	M.Wt	212.72
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			



Background

FP802 is an orally active potent TwinF interface inhibitor that disrupts and detoxifies the NMDAR/TRPM4 death complex. FP802 exerts powerful neuroprotective effects in the 5xFAD mouse model of Alzheimer's disease (AD) by preventing cognitive decline, preserving neuronal structural integrity, reducing amyloid-β plaque formation, and mitigating mitochondrial pathology [1]. FP802 stops loss of motor neurons, reduces serum neurofilament light chain (NfL) levels, improves motor performance, and extends life in a mouse model of amyotrophic lateral sclerosis (ALS). FP802 can be used for AD and ALS research [1] [2].

Caution: Product has not been fully validated for medical applications. For research use only.
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In Vivo, FP802 (10 and 40 mg/kg, p.o., daily for 4 months) rescues cognitive function, prevents neuronal structure degeneration, and reduces amyloid pathology in 5xFAD mice[1]. FP802 (40 mg/kg, s.c., daily from ~week 15 for 4 weeks) safely halts motor neuron degeneration and extends survival in ALS mice by targeting the NMDAR/TRPM4 complex[2].

In Vitro, FP802 (8 μM, 24-72 h) disrupts the NMDAR/TRPM4 complex and provides neuroprotection in cellular models, without directly affecting neurite outgrowth[1]. FP802 (10 μM, 30 min) exhibits potent neuroprotection against glutamate (20 μM)-mediated toxicity (IC_{50} = 8.7 μM) and restores NMDA-suppressed immediate-early gene expression to physiological levels[2]. FP802 shows no antagonistic activity against NMDARs in HEK293 cells (IC_{50} > 250 μM for both, GluN1/GluN2A and GluN1/GluN2B)[2]. FP802 (30 min) dose-dependently blocks NMDA-induced death of post-mitotic neurons in forebrain organoids derived from sporadic ALS patient Induced Pluripotent Stem Cells (iPSCs)[2].

References:
[1]. Yan J, et al. The NMDAR/TRPM4 death complex is a major promoter of disease progression in the 5xFAD mouse model of Alzheimer's disease. Mol Psychiatry. 2025 Aug 26.
[2]. Yan J, et al. TwinF interface inhibitor FP802 stops loss of motor neurons and mitigates disease progression in a mouse model of ALS. Cell Rep Med. 2024 Feb 20;5(2):101413.

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