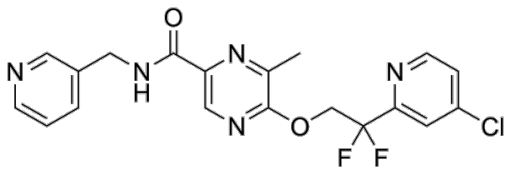
Product Data Sheet

Product Name: JNJ-78911118
Cat. No.: GC79511

Chemical Properties

Cas. No.	3106013-91-3		
Formula	$C_{19}H_{16}ClF_2N_5O_2$	M.Wt	419.81
Solubility	DMSO: 100 mg/mL (238.20 mM; Need ultrasonic)	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

JNJ-78911118 is a potent, brain-penetrant, selective GluN2A antagonist (IC_{50} = 44 nM). JNJ-78911118 shows >200-fold selectivity against GluN1/2B, 2C and 2D receptors. JNJ-78911118 functions as a negative allosteric modulator (NAM) by insurmountably suppressing glutamate efficacy and reducing glycine potency at GluN1/2A receptors. JNJ-78911118 produces profound pharmacodynamic effects in vivo. JNJ-78911118 can be used for depression research [1].

Caution: Product has not been fully validated for medical applications. For research use only.
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In Vivo, JNJ-78911118 (60 mg/kg, s.c., single dose) mitigates mechanical allodynia in the Complete Freund's adjuvant (CFA) mouse models of inflammatory pain, prevents hippocampal long-term potentiation (LTP) in rats and increases miniature excitatory postsynaptic current (mEPSC) frequency in the rat prefrontal cortex[1]. JNJ-78911118 (50 and 250 mg/kg, p.o., twice daily for 4 days or twice on the same day) is generally well tolerated but produces dose-related haemodynamic effects in rats[1].

In Vitro, JNJ-78911118 (10 pM-10 μM, 2 h) displaces the GluN1/2A interface binding radioligand JNJ-74950343 in hippocampal neuron membranes in a concentration-dependent manner, and does not alter glutamate potency but reduces its efficacy against homomeric GluN1/2A receptors[1]. JNJ-78911118 (10 μM, 24-72 h) promotes neurite outgrowth and synaptogenesis in rat hippocampal neuronal cultures, significantly enhancing multiple measures of dendritic complexity after 72 h[1]. JNJ-78911118 (1-10 μM) shows less than 50 % inhibition against all targets in a custom panel of 77 ion channels, receptors, and transporters, as well as a panel of 373 kinases[1].

References:
[1]. Lord B, et al Pharmacological characterisation of JNJ-78911118, a novel, centrally-penetrant, selective GluN2A antagonist. Br J Pharmacol. 2025 Sep;182(17):4080-4102.

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