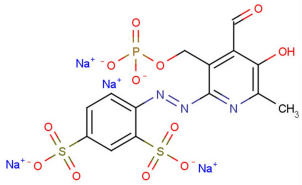
Data Sheet (Cat.No.T16564)

TargetMol
A DRUG SCREENING EXPERT

PPADS tetrasodium

Chemical Properties



CAS No.:	192575-19-2
Formula:	C14H10N3Na4O12PS2
Molecular Weight:	599.3
Appearance:	N/A
Storage:	0-4℃ for short term (days to weeks), or -20℃ for long term (months).

Biological Description

Description	PPADS tetrasodiuma is an inhibitor of the reverse mode of the Na/Ca²-exchanger in guinea pig airway smooth muscle. PPADS tetrasodiuma is a non-selective P2X receptor antagonist. PPADS tetrasodiuma blocks recombinant P2X1, -2, -3, -5 (IC50s ranging from 1 to 2.6 μM). PPADS tetrasodiuma blocks native P2Y2-like (IC50~0.9 mM) and recombinant P2Y4 (IC50~15 mM) receptors.
Targets(IC_{50})	Others: None
In vitro	PPADS tetrasodiuma is potent at other native and recombinant P2XRs. PPADS tetrasodiuma (1-30 μM; 10-50 minutes) inhibits Na+/Ca2+ exchanger reverse mode (NCXREV) in a time- and concentration dependent manner[2]. At human P2XRs sensitivity to PPADS tetrasodiuma depended on the subtype and was highest at the hP2X1, -2, -3, -5, and -7Rs with an IC50 of ～1–3 and ～30 μM for the hP2X4R[3].
In vivo	PPADS tetrasodiuma (15-60 mg/100g body weight (BW); i.p.; every 12 hours for 8 days) inhibits glomerular mesangial cells (MC) proliferation. It also not altering the proliferation of non-MC in vivo in mesangial proliferative glomerulonephritis[4].

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.669 mL	8.343 mL	16.686 mL
5 mM	0.334 mL	1.669 mL	3.337 mL
10 mM	0.167 mL	0.834 mL	1.669 mL
50 mM	0.033 mL	0.167 mL	0.334 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 ℃ for 6 months; - 20 ℃ for 1 month. Please use it as soon as possible.

Reference

1. Flores-Soto E, et al. PPADS, a P2X receptor antagonist, as a novel inhibitor of the reverse mode of the Na^+/Ca^{2+} exchanger in guinea pig airway smooth muscle. Eur J Pharmacol. 2012 Jan 15;674(2-3):439-44.
2. Huo H, et al. Mapping the binding site of the P2X receptor antagonist PPADS reveals the importance of orthosteric site charge and the cysteine-rich head region. J Biol Chem. 2018 Aug 17;293(33):12820-12831.
3. Einfluss von ATP und seinen Derivaten auf die Aktivierung von Monozyten.
4. Rost S, et al. P2 receptor antagonist PPADS inhibits mesangial cell proliferation in experimental mesangialproliferative glomerulonephritis. Kidney Int. 2002 Nov;62(5):1659-71.

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