**PPADS tetrasodium**

Cat. No.: HY-101044  
CAS No.: 192575-19-2  
Molecular Formula: $C_{14}H_{10}N_3Na_4O_{12}PS_2$  
Molecular Weight: 599.3  
Target: P2X Receptor; Na+/Ca2+ Exchanger  
Pathway: Membrane Transporter/Ion Channel  
Storage:  
- Powder: -20°C, 3 years  
- In solvent: -80°C, 6 months, -20°C, 1 month

**BIOLOGICAL ACTIVITY**

**Description**  
PPADS tetrasodium is a non-selective P2X receptor antagonist. PPADS tetrasodium blocks recombinant P2X1, -2, -3, -5 with IC$_{50}$s ranging from 1 to 2.6 μM. PPADS tetrasodium blocks native P2Y2-like (IC$_{50}$~0.9 mM) and recombinant P2Y4 (IC$_{50}$~15 mM) receptors. PPADS tetrasodium is an inhibitor of the reverse mode of the Na/Ca$^{2+}$ exchanger in guinea pig airway smooth muscle[1][2].

**In Vitro**  
PPADS tetrasodium (1-30 μM; 10-50 minutes) inhibits Na+/Ca2+ exchanger reverse mode (NCXREV) in a time- and concentration dependent manner[2]. PPADS tetrasodium is effective at other native and recombinant P2XRs. At human P2XRs sensitivity to PPADS tetrasodium depended on the subtype and was highest at the hP2X1, -2, -3, -5, and -7Rs with an IC$_{50}$ of -1–3 and -30 μM for the hP2X4R[3].

**In Vivo**  
PPADS tetrasodium (15-60 mg/100g body weight (BW); i.p.; every 12 hours for 8 days) inhibits glomerular mesangial cells (MC) proliferation without altering proliferation of non-MC in vivo in mesangial proliferative glomerulonephritis[4].

**Animal Model:** Male Sprague-Dawley rats weighing 160 to 200 g (anti-Thy1 disease mode)[4]  
**Dosage:** 15 mg/100g BW, 30 mg/100g BW, 60 mg/100g BW  
**Administration:** i.p.; every 12 hours for 8 days (the first PPADS injection was administered 60 minutes after disease induction, and the loading dose always contained double the amount of PPADS compared to the following injections.)  
**Result:** Specifically and dose-dependently reduced early (day 3) glomerular mesangial cell proliferation without altering proliferation of non-MC.

**REFERENCES**


Caution: Product has not been fully validated for medical applications. For research use only.

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