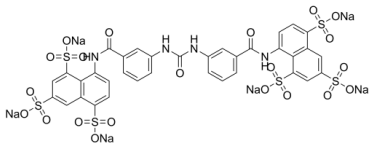
Data Sheet

Product Name:	NF023 (hexasodium)
Cat. No.:	CS-0029450
CAS No.:	104869-31-0
Molecular Formula:	$C_{35}H_{20}N_4Na_6O_{21}S_6$
Molecular Weight:	1162.88
Target:	P2X Receptor
Pathway:	Membrane Transporter/Ion Channel
Solubility:	10 mM in DMSO



BIOLOGICAL ACTIVITY:

NF023 hexasodium is a selective and competitive **$P2X_1$ receptor** antagonist, with **IC_{50}** values of 0.21 μM, 28.9 μM, > 50 μM and > 100 μM for human $P2X_1$, $P2X_3$, $P2X_2$, and $P2X_4$-mediated responses respectively[1][2][3][4]. **In Vitro:** NF023 is selective for recombinant Gi alpha-1 and recombinant Go alpha (EC_{50} value of approximately 300 nM)[2].
NF023 inhibits P2X1 receptors in a voltage-insensitive manner. NF023 (5 and 30 μM) causes a shift of the concentration-response curve to the right without affecting the maximal response to ATP (K_B=1.190.2 μM)[4].
In Vivo: NF023 (100 μmol/kg i.v.) antagonizes vasopressor responses to α,β-mATP but not to noradrenaline In pithed rats[3].

References:

[1]. F Soto, et al. Antagonistic Properties of the Suramin Analogue NF023 at Heterologously Expressed P2X Receptors. Neuropharmacology. 1999 Jan;38(1):141-9.

[2]. M Freissmuth, et al. Suramin Analogues as Subtype-Selective G Protein Inhibitors. Mol Pharmacol. 1996 Apr;49(4):602-11.

[3]. G Lambrecht, et al. Agonists and Antagonists Acting at P2X Receptors: Selectivity Profiles and Functional Implications. Naunyn Schmiedebergs Arch Pharmacol. 2000 Nov;362(4-5):340-50.

[4]. M Silva-Ramos, et al. Activation of Prejunctional P2x2/3 Heterotrimers by ATP Enhances the Cholinergic Tone in Obstructed Human Urinary Bladders. J Pharmacol Exp Ther. 2020 Jan;372(1):63-72.

CAIndexNames:

1,3,5-Naphthalenetrisulfonic acid, 8,8′-[carbonylbis(imino-3,1-phenylenecarbonylimino)]bis-, sodium salt (1:6)

SMILES:

O=C(C1=CC(NC(NC2=CC(C(NC(C(C([S](=O)(O[Na])=O)=C3)=C4C=C3[S](=O)(O[Na])=O)=CC=C4[S](=O)(O[Na])=O)=O)=CC=C2)=O)=CC=C1)NC(C(C([S](=O)(O[Na])=O)=C5)=C6C=C5[S](=O)(O[Na])=O)=CC=C6[S](=O)(O[Na])=O

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

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