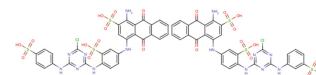


Procion Blue HB

Chemical Properties

CAS No.:	12236-82-7
Formula:	C ₂₉ H ₂₀ ClN ₇ O ₁₁ S ₃
Molecular Weight:	774.16
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

**Biological Description**

Description	Procion Blue HB is an antagonist of purinergic.
Targets(IC ₅₀)	Others: None
In vitro	Reactive Blue 2 is used as an ATP receptor antagonist and induces Ca ²⁺ oscillations in HeLa cells. Reactive Blue 2 enhances a Ca ²⁺ response to histamine that is linked to the PLC cascade. Reactive Blue 2 may activate the PLC cascade in an extracellular Ca ²⁺ -dependent manner and induce Ca ²⁺ oscillations [1]. The application of Reactive Blue 2 increases K ⁺ secretion in a dose-dependent manner. Reactive Blue 2 has antagonistic activities at P ₂ Y ₄ , and the antagonist potency at P ₂ Y ₄ paralleled the potency of K ⁺ secretion [2]. The anthraquinone dye reactive blue 2 is found to be a potent inhibitor of a protein kinase isolated and purified from thylakoids. The mode of inhibition is noncompetitive, with a K _i of 8 μM for the membrane-bound kinase, and 6 μM for the purified kinase. The inhibitor does not modify the substrate preference of the endogenous kinase and could be removed from the membrane by washing[3]. Reactive Blue 2 selectively inhibits responses mediated via the P ₂ ypurinoceptor, at least within a limited concentration range. In preparations where the tone has been raised with ATP, noradrenaline, and 2-methylthio ATP, but not α,β-methylene ATP, produces relaxations of the vessel. These relaxations are inhibited in the presence of reactive blue 2 [4]. Reactive blue 2 (0.3-10 μM) blocks the ATP-induced oscillation in a concentration-dependent manner [5].

Solubility Information

Solubility	DMSO: 110 mg/mL (142.09 mM) H ₂ O: 10 mg/mL (12.92 mM) (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.292 mL	6.459 mL	12.917 mL
5 mM	0.258 mL	1.292 mL	2.583 mL
10 mM	0.129 mL	0.646 mL	1.292 mL
50 mM	0.026 mL	0.129 mL	0.258 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 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Okuda A, et al. Reactive blue 2 induces calcium oscillations in HeLa cells. *Jpn J Physiol.* 2001 Jun;51(3):389-93.
2. Lee JH, et al. Reactive blue 2, an antagonist of rat P2Y4, increases K⁺ secretion in rat cochlea strial marginal cells. *Hear Res.* 2006 Sep;219(1-2):66-73.
3. Coughlan SJ, et al. Reactive blue 2 is a potent inhibitor of a thylakoid protein kinase. *Eur J Biochem.* 1991 Apr 23;197(2):467-71.
4. Burnstock G, et al. P2-purinoceptors of two subtypes in the rabbit mesenteric artery: reactive blue 2 selectively inhibits responses mediated via the P2y-but not the P2x-purinoceptor. *Br J Pharmacol.* 1987 Feb;90(2):383-91.
5. Uneyama H, et al. Suramin and reactive blue 2 are antagonists for a newly identified purinoceptor on rat megakaryocyte. *Br J Pharmacol.* 1994 Jan;111(1):245-9.

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