

Product Data Sheet

Product Name: Procion Blue HB (Reactive Blue 2)

Cat. No.: GC33665

Chemical Properties

Cas. No. 12236-82-7

SMILES O=S(C(C(N)=C1C2=O)=CC(NC3=CC=C(NC4=NC(Cl)=NC(NC5=CC=CC(S(=O)(O)=O)=C5)=N4)C(S(=O)(O)=O)=C3)=C1C(C6=C2C=CC=C6)=O)(O)=O.O=S(C(C(N)=C7C8=O)=CC(NC9=CC=C(NC%10=NC(Cl)=NC(NC%11=CC=C(S(=O)(O)=O)C=C%11)=N%10)C(S(=O)(O)=O)=C9)=C7C(C%12=C8C=CC=C%12)=O)(O)=O

Formula $C_{29}H_{20}ClN_7O_{11}S_3$ M.Wt 774.16

Solubility DMSO : ≥ 110 mg/mL (142.09 mM); Water : 10 mg/mL (12.92 mM); Ethanol : < 1 mg/mL (insoluble) Storage 4°C, protect from light

General For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the tips ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Evaluation sample solution : ship with blue ice All other available size: ship with RT, or Condition blue ice upon request.

Structure

Background

Procion Blue HB (Reactive Blue 2) is a purinergic antagonist.

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, and this increase is characterized as a peak followed by a partial relaxation to a steady-state. Reactive Blue 2 has antagonistic activities at P2Y₄, and the antagonist potency at P2Y₄ 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 μ M for the membrane-bound kinase, and 6 μ M 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 P2y purinoceptor, at least within a limited concentration range. In preparations where the tone has been raised with noradrenaline, ATP and 2-methylthio ATP, but not α, β -methylene ATP, produce relaxations of the vessel. These relaxations are inhibited in the presence of reactive blue 2[4]. Reactive blue 2, at concentrations of 0.3-10 μ M blocks the ATP-induced oscillation in a concentration-dependent manner[5].

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

[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 stria 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 P_{2y}-but not the P_{2x}-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.

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA