Nedocromil

Cat. No.: HY-13448

CAS No.: 69049-73-6

Molecular Formula: $C_{19}H_{17}NO_7$

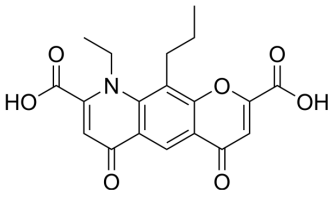
Molecular Weight: 371.34

Target: Histamine Receptor; Leukotriene Receptor; Prostaglandin Receptor

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 16.67 mg/mL (44.89 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6929 mL	13.4647 mL	26.9295 mL
	5 mM	0.5386 mL	2.6930 mL	5.3859 mL
	10 mM	0.2693 mL	1.3465 mL	2.6930 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Nedocromil suppresses the action or formation of multiple mediators, including histamine, leukotriene C_4 (LTC_4), and prostaglandin D_2 (PGD_2).

IC_{50} & Target

Histamine	LTC_4	PGD2

In Vitro

Nedocromil inhibits the release of histamine, LTC_4, and PGD_2 from mast cells challenged with antigen (with IC_{30} values of 2.1 μM, 2.3 μM, and 1.9 μM, respectively) and with anti-human IgE (IC_{30} values of 4.7 μM, 1.3 μM, and 1.3 μM, respectively)[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Nedocromil-treated diabetic mice show significantly improved heart function compared with controls. The contractility and relaxation forces show similar improvements. However, the cardiac function of Nedocromil-treated diabetic mice remains significantly impaired when compared with normal mice. Nedocromil can significantly improve cardiac function in mice with diabetic cardiomyopathy, but the treatment cannot restore normal function[2].

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PROTOCOL

Animal Administration [2]

Mice[2]

8-12 weeks old C57/BL6 male mice between 23-25 g receive intraperitoneal (i.p.) injections of 50 mg/kg Streptozotocin (STZ), dissolved in 100 mM citrate buffer pH 4.5, for five consecutive days. Diabetic mice (13-week-old) are randomly divided into three groups: 1) untreated group; 2) Nedocromil group, with Nedocromil released at the rate of 30 mg/kg per day from a subcutaneous (s.c.) pellet implantation; and vehicle group, with an inactive pellet implanted. Normal mice (non-diabetic) and normal mice that receive Nedocromil (30 mg/kg per day) are also included in this study for comparison. All sample groups included 15 mice (n=15)[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Wells E, et al. Characterization of primate bronchoalveolar mast cells. II. Inhibition of histamine, LTC4, and PGD2 release from primate bronchoalveolar mast cells and a comparison with rat peritoneal mastcells. J Immunol. 1986 Dec 15;137(12):3941-5.

[2]. Myocardial remodeling in diabetic cardiomyopathy associated with cardiac mast cell activation. Huang ZG, et al. PLoS One. 2013;8(3):e60827.

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