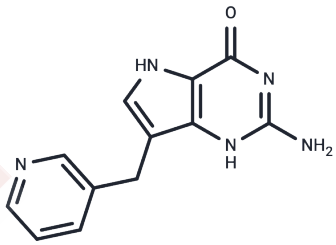
Data Sheet (Cat.No.T12399)

TargetMol

Peldesine

Chemical Properties



CAS No. : 133432-71-0

Formula: C12H11N5O

Molecular Weight: 241.25

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Peldesine (BCX 34) is an effective, competitive, reversible, and orally active inhibitor of purine nucleoside phosphorylase. Peldesine inhibits T-cell proliferation with an IC50 of 800 nM. Peldesine can be used in research on cutaneous T-cell lymphoma, psoriasis and HIV infection.
Targets(IC50)	Nucleoside Antimetabolite/Analog,HIV Protease
In vitro	The IC50s are 36 nM, 5 nM, and 32 nM for human, rat, and mouse red blood cell purine nucleoside phosphorylase, respectively. In Jurkat cells, Peldesine (BCX 34; 0-50 μM; 72 hours) inhibits the T-cell proliferation completely at a concentration of less than 10 μM, in the presence of dGuo (10 μM). In contrast, the B-cell proliferation is not affected by Peldesine[1].
In vivo	Peldesine demonstrates oral efficacy by elevating plasma inosine levels in rats (2-fold at 30 mg/kg), significantly reducing ex vivo red blood cell (RBC) purine nucleoside phosphorylase (PNP) activity in rats (98% at 3 hours, 100 mg/kg), and moderately suppressing ex vivo skin PNP activity in mice (39% at 3 hours, 100 mg/kg). Additionally, Peldesine exhibits an oral bioavailability of 76% in rats[2].

Solubility Information

Solubility	DMSO: 21.43 mg/mL (88.83 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (20.73 mM),Sonication is recommended. 10% DMSO+90% Saline: 2.14 mg/mL (8.87 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1451 mL	20.7254 mL	41.4508 mL
5 mM	0.829 mL	4.1451 mL	8.2902 mL
10 mM	0.4145 mL	2.0725 mL	4.1451 mL
50 mM	0.0829 mL	0.4145 mL	0.829 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Wada Y, et al. BCX-34: a novel T-cell selective immunosuppressant: purine nucleoside phosphorylase (PNP) inhibitor. Artif Organs. 1996 Aug;20(8):849-52.
Bantia S, et al. In vivo and in vitro pharmacologic activity of the purine nucleoside phosphorylase inhibitor BCX-34: the role of GTP and dGTP. Immunopharmacology. 1996 Oct;35(1):53-63.
New AIDS study suppresses T cells to stop viral growth. AIDS Alert. 1997 Jul;12(7):77-8.
Duvic M, et al. A phase III, randomized, double-blind, placebo-controlled study of peldesine (BCX-34) cream as topical therapy for cutaneous T-cell lymphoma. J Am Acad Dermatol. 2001 Jun;44(6):940-7.

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