

Product Data Sheet

Product Name: Peldesine

Cat. No.: GC61168

Chemical Properties

Cas. No. 133432-71-0

SMILES O=C1C(NC=C2CC3=CC=CN=C3)=C2N=C(N)N1

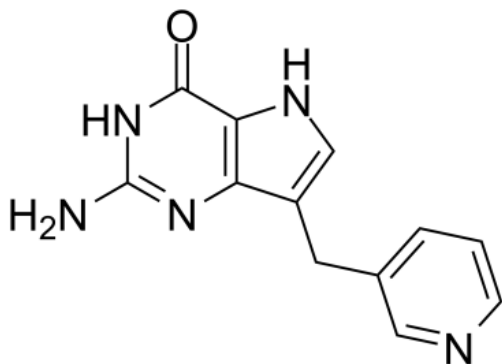
Formula $C_{12}H_{11}N_5O$ M.Wt 241.25

Solubility DMSO : 200 mg/mL (829.02 mM; Need ultrasonic) Storage Store at -20°C

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

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

Structure



Background

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

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Peldesine (BCX 34) is a potent, competitive, reversible and orally active purine nucleoside phosphorylase (PNP) inhibitor with IC₅₀s of 36 nM, 5 nM, and 32 nM for human, rat, and mouse red blood cell (RBC) PNP, respectively. Peldesine is also a T-cell proliferation inhibitor with an IC₅₀ of 800 nM. Peldesine has the potential for cutaneous T-cell lymphoma, psoriasis and HIV infection treatment[1][2][3][4].

Peldesine (BCX 34; 0-50 µM; 72 hours; Jurkat cells) could inhibit 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]. Peldesine (BCX 34) suppresses T-cell immune reaction in an IL-2-independent manner, and this means that Peldesine might affect a late phase rather than an early stage in T-cell activation[1]. Peldesine also, in the presence but not in the absence of deoxyguanosine, inhibits human leukemia CCRF-CEM T-cell proliferation with an IC₅₀ of 0.57 µM but not rat or mouse T-cell proliferation up to 30 µM[3]. Cell Proliferation Assay[1] Cell Line: Jurkat cells

Oral bioavailability of Peldesine in rats is 76%. Peldesine is orally active in elevating plasma inosine in rats (2-fold at 30 mg/kg), in suppressing ex vivo RBC PNP activity in rats (98% at 3 h, 100 mg/kg), and in suppressing ex vivo skin PNP in mice (39% at 3 h, 100 mg/kg)[3].

[1]. 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. [2]. 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. [3]. 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. [4]. New AIDS study suppresses T cells to stop viral growth. AIDS Alert. 1997 Jul;12(7):77-8.

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