Data Sheet (Cat.No.T61351)

TargetMol

Pixantrone hydrochloride

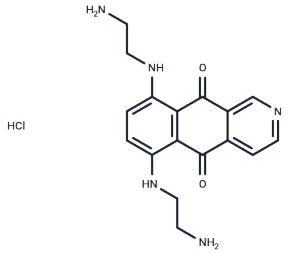
Chemical Properties

CAS No. : 175989-38-5

Formula: C17H20ClN5O2

Molecular Weight: 361.83

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	Pixantrone (BBR 2778 (free base)) hydrochloride, a mitoxantrone analog, functions as a topoisomerase II inhibitor and DNA intercalator, demonstrating anti-tumor activity [1] [2].
Targets(IC50)	Others,Topoisomerase
In vitro	Pixantrone hydrochloride demonstrates a broad spectrum of anticancer activities, affecting various cancer cell lines through multiple mechanisms. At concentrations ranging from 0 to 10 μM over 72 hours, it induces cell death across different cancer cell lines without disrupting the cell cycle. Additionally, when applied at concentrations between 25 to 500 nM for 24 hours, pixantrone hydrochloride leads to DNA damage, impedes chromosome segregation, and results in significant chromosomal aberrations and mitotic catastrophes in PANC1 cells. Its ability to inhibit the growth of human leukemia K562 cells, etoposide-resistant K/VP.5 cells, MDCK, and ABCB1-transfected MDCK/MDR cells is evidenced by IC50s of 0.10 μM, 0.56 μM, 0.058 μM, and 4.5 μM, respectively, achieved at concentrations between 0 and 100 μM over 72 hours. Additionally, at dosages from 0.01 to 0.2 μM, it facilitates a concentration-dependent formation of linear DNA by targeting topoisomerase IIα and generating semiquinone free radicals in an enzymatic reducing system, a process not observed in cellular systems likely due to minimal cellular uptake. At concentrations from 0.01 to 10 μM, pixantrone hydrochloride significantly inhibits the proliferation of rat 97-116 peptide-specific T cells, indicating potent immunosuppressive activity. In cell proliferation assays, it was shown to decrease the proliferation of T47D, MCF-10A, and OVCAR5 cells at 37.3 nM, 126 nM, and 136 nM, respectively, and effectively suppressed rat T cell proliferation at a concentration of 0.01 μM, achieving complete suppression at higher concentrations.
In vivo	Pixantrone hydrochloride (i.v., 27 mg/kg, every 7 days, for three treatments) does not exacerbate existing moderate degenerative cardiomyopathy and exhibits minimal cardiotoxicity in mice, even after multiple treatment cycles, leading to lower mortality rates compared to mitoxantrone in doxorubicin-pretreated mice [3]. Additionally, Pixantrone hydrochloride (i.v., 16.25 mg/kg, weekly, for three treatments) effectively modulates Lymph node cells (LNC) responses, influences T cell subpopulations in TAChR-immunized Lewis rats, and demonstrates both preventive and therapeutic effects in experimental autoimmune myasthenia gravis (EAMG) rats [4].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7637 mL	13.8186 mL	27.6373 mL
5 mM	0.5527 mL	2.7637 mL	5.5275 mL
10 mM	0.2764 mL	1.3819 mL	2.7637 mL
50 mM	0.0553 mL	0.2764 mL	0.5527 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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