Web: www.taiclone.com
Tel: +886-2-2735-9682
Email: order@taiclone.com

Pixantrone (dimaleate)

Catalog No: tcsc3287

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
144675-97-8

Formula:
$C_{25}H_{27}N_5O_{10}$

Pathway:
Cell Cycle/DNA Damage

Target:
Topoisomerase

Purity / Grade:
>98%

Solubility:
H2O : 15.6 mg/mL (27.98 mM; Need ultrasonic and warming)

Alternative Names:
BBR 2778 dimaleate

Observed Molecular Weight:
557.51

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Product Description

Pixantrone dimaleate is a **topoisomerase II** inhibitor and DNA intercalator, with anti-tumor activity.

IC50 & Target: Topoisomerase II[1]

In Vitro: Pixantrone dimaleate is a topoisomerase II inhibitor. Pixantrone induces cell death in multiple cancer cell lines independent of cell cycle perturbation, with IC_{50}s of 37.3 nM, 126 nM and 136 nM for T47D, MCF-10A and OVCAR5 cells, respectively. Pixantrone induces DNA damage at high concentrations (500 nM) but not at concentrations (100 nM) sufficient to kill PANC1 cells. Pixantrone (25 or 100 nM) induces severe chromosomal aberrations and mitotic catastrophe in PANC1 cells. Pixantrone (100 nM) may disrupt chromosome segregation because of generating merotelic kinetochore attachments that cause chromosome non-disjunction[1]. Pixantrone potently inhibits growth of human Leukemia K562 cells, etoposide-resistant K/VP.5 cells, MDCK and ABCB1-transfected MDCK/MDR cells, with IC_{50}s of 0.10 μM, 0.56 μM, 0.058 μM and 4.5 μM, respectively. Pixantrone (0.01-0.2 μM) leads to a concentration-dependent formation of linear DNA through acting on topoisomerase IIα. Pixantrone produces semiquinone free radicals in an enzymatic reducing system, although not in a cellular system, most likely due to low cellular uptake[2]. Pixantrone (0.01-10 μM) shows potent inhibitory activities against rat 97-116 peptide-specific T cell proliferation[4].

In Vivo: Pixantrone (27 mg/kg) does not worsen pre-existing moderate degenerative cardiomyopathy in doxorubicin-pretreated mice, by i.v. one dose every 7 days repeated thrice (q7d × 3). Pixantrone (27 mg/kg) causes minimal cardiotoxic in mice following repeated treatment cycles. Moreover, Pixantrone results in less mortality than mitoxantrone in doxorubicin-pretreated mice[3]. Pixantrone (16.25 mg/kg i.v, q7d × 3) modulates Lymph node cells (LNC) responses, and affacts T cell subpopulations in TAChR-immunized Lewis rats. Pixantrone also shows preventive and therapeutic effect in experimental autoimmune myasthenia gravis (EAMG) rats[4].