

VAL-083

Catalog No: tcsc1358



Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg



Specifications

CAS No:

23261-20-3

Formula:

$C_6H_{10}O_4$

Pathway:

Cell Cycle/DNA Damage

Target:

DNA Alkylator/Crosslinker

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

Dianhydrodulcitol; Dianhydrogalactitol

Observed Molecular Weight:

146.14

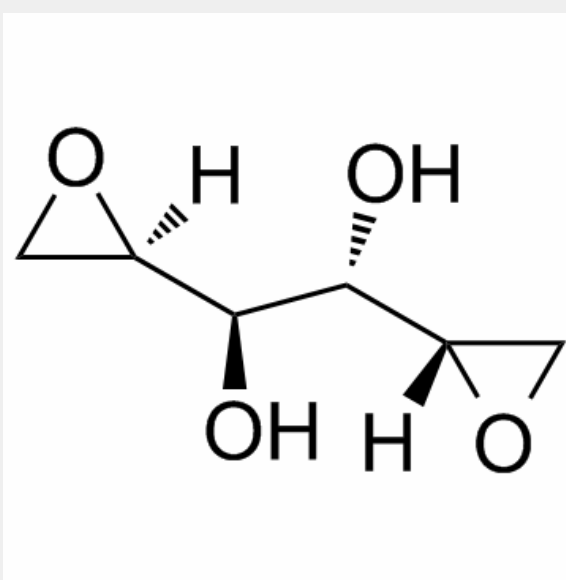
Product Description

VAL-083 is an **alkylating** agent that creates N7 methylation on DNA, with antitumor activity.

IC50 & Target: DNA Alkylator^[1]

In Vitro: VAL-083 is an alkylating agent that creates N7 methylation on DNA. VAL-083 suppresses U251 and SF188 cell growth and induces apoptosis after 72 h. VAL-083 (5 μ M) inhibits the growth of SF188 by ~95%. VAL-083 inhibits T98G cells growth in a dose-dependent manner (IC₅₀^[1]). VAL-083 (Dianhydrogalactitol) inhibits the proliferation of HUVEC and U251 cells at doses of more than 12.5 μ g/mL. VAL-083 (3.125, 6.25, 12.5 μ g/mL) also suppresses the migration and invasion, and reduces MMP2, VEGF, VEGFR2, and FGF2 expression in HUVEC and U251 cells^[2]. VAL-083 (1,2:5,6-dianhydrogalactitol, 1, 2, 5 μ M) dose-dependently induces cell cycle arrest at G2/M phase in the 3 glioma cell lines. VAL-083 activates two parallel signaling cascades, the p53-p21 and the CDC25C-CDK1 cascade. In addition, VAL-083 significantly enhances the radiosensitivity of LN229 cells^[3].

In Vivo: VAL-083 (Dianhydrogalactitol; 25, 50, 100 μ g/mL) dose-dependently inhibits angiogenesis in zebrafish model. VAL-083 considerably reduces VEGF, VEGFR2, and FGF2 expression at 25 μ g/mL, and further causes reduction in FGFR2 expression at 50 μ g/mL^[2]. VAL-083 (1,2:5,6-dianhydrogalactitol; 5 mg/kg, iv, twice per week for 6 weeks) significantly blocks the growth of LN229 cells in mice with the relative tumor growth rate (T/C) of 22.38%, and the tumor growth inhibitory rate (TGI) of 83.58%. Moreover, VAL-083 dramatically activates the CDC25C-CDK1 cascade in the xenografted tumor model^[3].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!