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

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

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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 μM) inhibits the growth of SF188 by ~95%. VAL-083 inhibits T98G cells growth in a dose-dependent manner (IC_{50}[1]. VAL-083 (Dianhydrogalactitol) inhibits the proliferation of HUVEC and U251 cells at doses of more than 12.5 μg/mL. VAL-083 (3.125, 6.25, 12.5 μg/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 μM) 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 μg/mL) dose-dependently inhibits angiogenesis in zebrafish model. VAL-083 considerably reduces VEGF, VEGFR2, and FGF2 expression at 25 μg/mL, and further causes reduction in FGFR2 expression at 50 μg/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 moedl[3].