Web: www.taiclone.com
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PYZD-4409

Catalog No: tcsc1725

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
423148-78-1

Formula:
$C_{14}H_7ClFN_3O_5$

Pathway:
Metabolic Enzyme/Protease

Target:
E1/E2/E3 Enzyme

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 35 mg/mL (99.53 mM)

Observed Molecular Weight:
351.67

Product Description

PYZD-4409 is a novel small molecule inhibitor of Ubiquitin-activating enzyme UBA1/E1 enzyme with an IC50 of 20 uM (cell-free

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enzymatic assay).

IC50 Value: 20 uM (cell-free enzymatic assay) [1]

Target: E1 enzyme (Ubiquitin-activating enzyme)

in vitro: PYZD-4409 inhibited the ATP-dependent activation of ubiquitin and subsequent transfer of the activated ubiquitin from the E1 to the common human E2 enzyme UBE2E2 in a gel-based assay. The IC50 of inhibition was estimated to be 20μM in a cell-free enzymatic assay. Suggesting specificity of PYZD-4409 for the E1 enzyme, the compound had no effect on unrelated enzymes such as α-Mannosidase II glycosylation enzyme or Luciferase at concentrations up to 100μM (data not shown). It also did not inhibit the summo E1, Uba2, at concentrations up to 100μM. In 5 of 8 leukemia and myeloma cell lines, PYZD-4409 induced cell death with a LD50 less than 10μM. Myeloma cell lines were particularly sensitive to E1 inhibition because PYZD-4409 induced cell death with 3 of 4 myeloma cell lines (ie, LP1, KMS11, and U226) having an LD50 of 3μM or less. In contrast, solid tumor cell lines were less sensitive with an LD50 of approximately 15 to 20μM [1].

in vivo: SCID mice were injected subcutaneously with MDAY-D2 murine leukemia cells and then treated with PYZD-4409 (10 mg/kg) or buffer control intraperitoneally daily on alternate days over 8 days. Sixteen days after tumor implantation, the mice were killed, and the tumors excised and weighed. Compared with control-treated mice, treatment with PYZD-4409 delayed tumor growth and decreased tumor weight without untoward toxicity. Inhibition of the E1 can achieve an antitumor effect in vivo [1].