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

Degrasyn

Catalog No: tcsc0483

Available Sizes

Size: 5mg

Size: 10mg

Size: 50mg

Size: 100mg

Specifications

CAS No:
856243-80-6

Formula:
$C_{19}H_{18}BrN_3O$

Pathway:
Cell Cycle/DNA Damage;Protein Tyrosine Kinase/RTK;Autophagy

Target:
Deubiquitinase;Bcr-Abl;Autophagy

Purity / Grade:
>98%

Solubility:
DMSO : ≥ 33 mg/mL (85.88 mM)

Alternative Names:
WP1130

Observed Molecular Weight:
384.27

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Product Description

Degrasyn (WP1130) is a cell-permeable **deubiquitinase (DUB)** inhibitor, directly inhibiting DUB activity of USP9x, USP5, USP14, and UCH37. Degrasyn has been shown to downregulate the antiapoptotic proteins **Bcr-Abl** and **JAK2**.

IC50 & Target: IC50: 1.8 μM (Bcr-Abl, in K562, BV-173 cells)[1]

Deubiquitinase[2]

In Vitro: Degrasyn, a small molecule that specifically and rapidly down-regulates both wild-type and mutant Bcr/Abl protein without affecting bcr/abl gene expression in chronic myelogenous leukemia (CML) cells. Degrasyn is more effective in inducing apoptosis of myeloid and lymphoid tumor cells (IC_{50} 0.5 to 2.5 μM) than normal $CD34^+$ hematopoietic precursors, dermal fibroblasts, or endothelial cells (IC_{50} ~5 to 10 μM). Degrasyn reduces Bcr/Abl protein levels through a unique mechanism that is not affected by mutations that interfere with imatinib mesylate binding. Degrasyn inhibits phosphorylation of both the wild-type and the T315I mutant Bcr/Abl proteins, as demonstrated by the rapid disappearance (within 1 hour) of phosphotyrosyl-Bcr/Abl in both BV173 and BV173R cells. Degrasyn-induced down-regulation of Bcr/Abl is accompanied by apoptosis of CML cells[1]. Treatment with Degrasyn yields an anti-proliferative effect across all cell lines tested in a dose-dependent manner. Notably, treatment with Degrasyn results in marked anti-proliferative activity and morphological changes in NCH644 and NCH421K glioma stem-like cells. Treatment with Degrasyn results in a dose-dependent and probably compensatory increase of Mcl-1 mRNA levels after 6 h and only a minor decrease after 24 h. Similar findings are observed for Usp9X levels. These data suggest that Degrasyn down-regulates Mcl-1 and Usp9X through a post-transcriptional mechanism[2].

In Vivo: Degrasyn suppresses the growth of K562 heterotransplanted tumors as well as both wild-type Bcr/Abl and T315I mutant Bcr/Abl-expressing BaF/3 cells transplanted into nude mice. To assess the possible therapeutic activity of Degrasyn against CML, nude mice received a subcutaneous transplant with K562 cells and are treated with 30 mg/kg Degrasyn every other day for 9 days after palpable tumor formation (10 days). This dose and schedule are well tolerated and effective in other tumor models. Antitumor activity is compared with that after daily Imatinib mesylate treatment (50 mg/kg). Nineteen days after tumor inoculation, tumors in the control group reached maximum allowable dimension, and the effect of therapy is assessed. Degrasyn treatment suppresses K562 tumor growth to an extent comparable to that observed in imatinib mesylate-treated animals, suggesting that Degrasyn is active in reducing the growth of established K562 tumors[1].