Product Datasheet

IT-901

Catalog No. **BP-01902** · CAS **1584121-99-2** · Form **free base** · Physical state **solid** · Color **orange to red** · Version **1.0** · Revision **2026-09-04**

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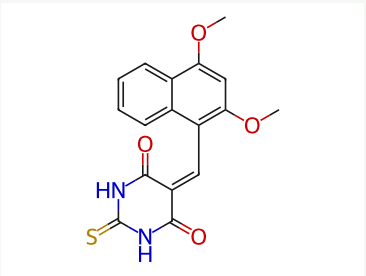
Target	Research area
NF-κB	**Cancer**

Molecular formula	**$C_{17}H_{14}N_2O_4S$**
Molecular weight	**342.3690**

STRUCTURE



DESCRIPTION

IT-901 is an orally active and potent NF-κB subunit c-Rel inhibitor with an IC50 of 0.1 μM, 3 μM for NF-κB DNA binding and c-Rel DNA binding, respectively. IT-901, a bioactive naphthalenethiobarbiturate derivative, has the potential for human lymphoid tumors and ameliorate graft-versus-host disease (GVHD).

BIOLOGICAL ACTIVITY

In Vitro

IT-901 (1, 3, 5 μM; for 24 hours) results in decreased proliferation of viable ABC and GCB DLBCL cells.

IT-901 (3 μM; for 24 hours) decreases cell viability in a dose-dependent fashion, at least 60 percent of cells were still viable after 48 hours of IT-901 treatment (4μM) in all tested cell lines except HBL1.

IT-901 (1, 5, 10 μM; for 6 hours) documents Diminished expression of p65 and p50 in nuclear and cytosolic fractions and also decreases the expression of the inhibitory subunit IκBα both in the phosphorylated and non-phosphorylated forms in primary CLL cells and cell lines.

The IC50 of IT-901/GDM-12 is 2.9 μM for c-Rel whereas IL-2 secretion is successfully blocked at 5 μM.

The concentrations of IT-901 above 10 μM become increasingly toxic and may lead to apoptosis of healthy cells.

IT-901 inhibits cell growth of both activated B-like (ABC) and germinal center B-like (GCB) cell lines with the IC50 values between 3μM to 4μM.

In Vivo

IT-901 (24 mg/kg; IP; every other day for 2 weeks) has an effective treatment of acute GVHD without impairing anti-tumor activity.

IT-901 (12-20 mg/kg; IP) improves the PK profile by increasing T1/2 and Cmax.

SOLUBILITY

Soluble in DMSO : 12.5 mg/mL

REFERENCES

[1]. Shono Y, et al. Characterization of a c-Rel Inhibitor That Mediates Anticancer Properties in HematologicMalignancies by Blocking NF-κB-Controlled Oxidative Stress Responses. Cancer Res. 2016 Jan 15;76(2):377-89.

[2]. Vaisitti T, et al. Targeting metabolism and survival in chronic lymphocytic leukemia and Richter syndrome cellsby a novel NF-κB inhibitor. Haematologica. 2017 Nov;102(11):1878-1889.