Data Sheet (Cat.No.T214480)

TargetMol

HSB401

Chemical Properties

CAS No. :	3022265-51-3
Formula:	C26H28FN5O
Molecular Weight:	445.54
Storage:	Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	HSB401 is an orally active FLT3 inhibitor with IC50 values of 28, 5, 72, and 51 nM for FLT3-WT, FLT3-D835Y, FLT3-ITD-F691L, and FLT3-ITD, respectively. It downregulates the FLT3 signaling pathway, inducing cell cycle arrest and apoptosis. HSB401 does not inhibit c-KIT, which reduces the risk of bone marrow suppression. In the MV4-11 xenograft mouse model, HSB401 significantly suppresses tumor growth and is applicable for research in acute myeloid leukemia (AML).
Targets(IC50)	Apoptosis
In vitro	HSB401 exhibits a GI50 value of 0.772 μM in K562 cells and 0.027 μM in MV4-11 cells. At concentrations ranging from 20-500 nM over 2 hours, HSB401 inhibits FLT3 and its downstream pathways in MV4-11 cells. Within 24 hours at the same concentration range, it induces apoptosis in MV4-11 cells, activating caspase 7 and 9, and cleaving PARP-1 protein. HSB401 demonstrates nanomolar affinity for the recombinant human FLT3 kinase domain with a dissociation constant (K D) comparable to Gilteritinib. Additionally, HSB401 shows anti-proliferative activity similar to Gilteritinib in both MOLM13 cells and their resistant clones, with a selectivity ratio of 1. It reduces autophosphorylation of FLT3 at the Y589/591 sites in MOLM13 and Ba/F3 (FLT3-ITD) cell lines, and diminishes downstream FLT3 signaling in a concentration-dependent manner when used at 20-500 nM for 2 hours. Furthermore, at 6.25-100 nM for 24 hours, HSB401 specifically inhibits FLT3, inducing a dose-dependent increase in G1 phase cells in FLT3-dependent leukemia cell lines such as MV4-11 and MOLM-13.
In vivo	HSB401 administered at 30 mg/kg orally once daily for 29 days demonstrated a statistically significant tumor growth inhibition (TGI) of 80.5% in the MV4-11 xenograft mouse model, with no adverse effects on body weight.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2445 mL	11.2223 mL	22.4447 mL
5 mM	0.4489 mL	2.2445 mL	4.4889 mL
10 mM	0.2244 mL	1.1222 mL	2.2445 mL
50 mM	0.0449 mL	0.2244 mL	0.4489 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481