YE6144

Cat. No.: HY-150095

Molecular Formula: $C_{21}H_{27}ClFN_7O$

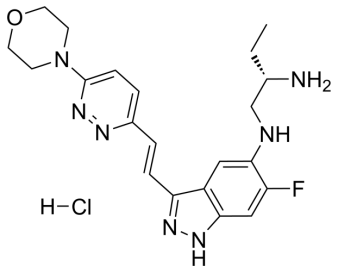
Molecular Weight: 447.94

Target: Others

Pathway: Others

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (223.24 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2324 mL	11.1622 mL	22.3244 mL
	5 mM	0.4465 mL	2.2324 mL	4.4649 mL
	10 mM	0.2232 mL	1.1162 mL	2.2324 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 10 mg/mL (22.32 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 10 mg/mL (22.32 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 10 mg/mL (22.32 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

YE6144 is a prototypical interferon regulatory factor 5 (IRF5) inhibitor. YE6144 selectively suppresses IRF5 activity through inhibition of IRF5 phosphorylation[1].

IC_{50} & Target

IRF5[1]

In Vitro

YE6144 (1 or 3 μM; 30 min) inhibits the phosphorylation of IRF5 in both human PBMCs and mouse splenocytes[1].
YE6144 (0-10 μM; 30 min) inhibits the production of type I IFNs with an IC_{50} of approximately 0.09 μM in human HC PBMCs[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Human HC PBMCs and mouse WT splenocytes
Concentration:	1 μM (PBMCs) and 3 μM (splenocytes)
Incubation Time:	30 min
Result:	Inhibited the phosphorylation of IRF5.

RT-PCR[1]

Cell Line:	Mouse WT splenocytes
Concentration:	3 μM
Incubation Time:	30 min
Result:	Induction of type I IFN genes, Ifnb1 and Ifna stimulated by TLR7 ligands or TLR9 ligands was remarkably weakened.

In Vivo

YE6144 (40.0 mg/kg; s.c.; once) suppresses the progression of mouse systemic lupus erythematosus[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	NZB/W F1 mouse model of systemic lupus erythematosus (SLE)[1]
Dosage:	40.0 mg/kg
Administration:	Subcutaneous injection, once
Result:	Suppressed the exacerbation of autoantibody production. Splenomegaly and renal dysfunction were also suppressed by the treatment after disease onset.

REFERENCES

[1]. Ban T, et al. Genetic and chemical inhibition of IRF5 suppresses pre-existing mouse lupus-like disease. Nat Commun. 2021 Jul 19;12(1):4379.

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