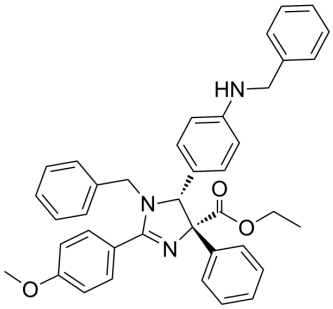
TCH-165

Cat. No.:	HY-120722
CAS No.:	1446350-60-2
Molecular Formula:	$C_{39}H_{37}N_3O_3$
Molecular Weight:	595.73
Target:	Proteasome
Pathway:	Metabolic Enzyme/Protease
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (419.65 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6786 mL	8.3931 mL	16.7861 mL
	5 mM	0.3357 mL	1.6786 mL	3.3572 mL
	10 mM	0.1679 mL	0.8393 mL	1.6786 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: ≥ 6.25 mg/mL (10.49 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (10.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

TCH-165 is a small molecule modulator of proteasome assembly, which increases 20S levels and facilitates 20S-mediated protein degradation[1].

IC_{50} & Target

Proteasome assembly[1]

In Vitro

TCH-165 (0.01-10 μM; 72 hours; RPMI8226 and U87MG cells) treatment inhibits cell growth of RPMI8226 and U87MG cells with IC_{50} of 1.6 μM and 2.4 μM, respectively[1].
?TCH-165 (0-10 μM; 24 hours; HEK293T cells) treatment enhances ODC degradation is blocked by BTZ indicated that this event is proteasome-mediated. TCH-165 enhances proteolytic degradation in a concentration-dependent manner[1].
?TCH-165 enhances the chymotrypsin-like (CT-L), trypsin-like (Tryp-L) and caspase-like (Casp-L) activities with EC_{50}s of 4.2 μ

M, 3.2 μM and 4.7 μM, respectively[1].

?TCH-165 enhances 20S-mediated degradation of IDPs, α-syn, and tau in vitro, and does not induce the degradation of structured proteins such as GAPDH[1].

?TCH-165-treated cells display a decrease in the assembled 26S and an increase in the 20S proteasome. TCH-165 regulates the dynamic equilibrium between the 20S and 26S proteasome complexes, favoring 20S-mediated protein degradation[1].

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

Cell Viability Assay[1]

Cell Line:	RPMI8226 and U87MG cells
Concentration:	0.01-10 μM
Incubation Time:	72 hours
Result:	Inhibited cell growth of RPMI8226 and U87MG cells with IC_{50} of 1.6 μM and 2.4 μM, respectively.

Western Blot Analysis[1]

Cell Line:	HEK293T cells
Concentration:	0 μM, 3 μM, 10 μM
Incubation Time:	24 hours
Result:	Enhanced proteolytic degradation in a concentration-dependent manner.

CUSTOMER VALIDATION

- Eur J Pharmacol. 2023 Aug 24;176011.

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REFERENCES

[1]. Njomen E, et al. Small Molecule Modulation of Proteasome Assembly. Biochemistry. 2018 Jul 17;57(28):4214-4224.

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