PROTAC α-synuclein degrader 5

Cat. No.: HY-155021

CAS No.: 2781922-42-5

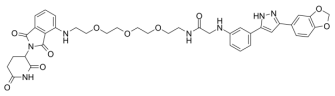
Molecular Formula: $C_{39}H_{41}N_7O_{10}$

Molecular Weight: 767.78

Target: α-synuclein; PROTACs

Pathway: Neuronal Signaling; PROTAC

Storage: -20°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (130.25 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.3025 mL	6.5123 mL	13.0246 mL
	5 mM	0.2605 mL	1.3025 mL	2.6049 mL
	10 mM	0.1302 mL	0.6512 mL	1.3025 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: ≥ 3.75 mg/mL (4.88 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

PROTAC α-synuclein degrader 5 is a highly selective small-molecule degraders (PROTAC) of α-synuclein aggregates, with an DC_{50} of 7.51 μM and the highest degradation rate D_{max} of 89%. PROTAC α-synuclein degrader 5 contains probe molecule sery308 and E3 ligase ligands. PROTAC α-synuclein degrader 5 can be used for neurological disease research[1].

In Vitro

PROTAC α-synuclein degrader 5 (Compound 2b) (0-40 μM, 48 hour) decreases the level of α-synuclein aggregates within the treatment period in preformed fibril (PFF) -seeding model cells[1].
PROTAC α-synuclein degrader 5 (0-10 μM, 48 hour) degrades α-synuclein aggregates in a dose-dependent manner, as indicated by the reduced number and density of α-synuclein (+) punctate as well as the gradually declined fluorescence intensity[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]

Cell Line:	Preformed fibril (PFF)-seeding model in HEK-293T cells
Concentration:	0-40 μM
Incubation Time:	0-48 hours
Result:	Decreased the level of α-synuclein aggregates within the treatment period. This kind of change became statistically significant by 3h and reached its plateau after 24h. Lowered the level of α-synuclein aggregates in model cells after treatment of 48 h.

Immunofluorescence[1]

Cell Line:	HEK-293T cells
Concentration:	0-10 μM
Incubation Time:	48 hours
Result:	Degraded α-synuclein aggregates inadose-dependent manner, as indicated bythe reduced number and density of α-synuclein (+) punctae aswell asthe gradually declined fluorescence intensity.

REFERENCES

[1]. Yichen Tong, et.al. Discovery of Small-Molecule Degraders for Alpha-Synuclein Aggregates. Journal of Medicinal Chemistry 2023 66 (12), 7926-7942

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