# YTX-465

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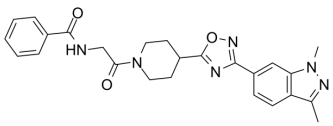
|---|---|
| **Cat. No.:** | HY-124751 |
| **CAS No.:** | 2225824-53-1 |
| **Molecular Formula:** | $C_{25}H_{26}N_6O_3$ |
| **Molecular Weight:** | 458.51 |
| **Target:** | Stearoyl-CoA Desaturase (SCD) |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | 4°C, protect from light<br>* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light) |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (218.10 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 2.1810 mL | 10.9049 mL | 21.8098 mL |
| | 5 mM | 0.4362 mL | 2.1810 mL | 4.3620 mL |
| | 10 mM | 0.2181 mL | 1.0905 mL | 2.1810 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: ≥ 2.5 mg/mL (5.45 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.45 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.45 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

YTX-465 is a stearoyl-CoA desaturase (Ole1/SCD) inhibitor. YTX-465 inhibits Ole1 and SCD1 with $IC_{50}$s of 0.039 μM and 30.4 μM, respectively. YTX-465 can be used in the research of Parkinson's disease and other synucleinopathies[1].

**$IC_{50}$ & Target**

| Ole1 | SCD1 |
|---|---|
| 0.039 μM ($IC_{50}$) | 30.4 μM ($IC_{50}$) |

**In Vitro**

YTX-465 (1-10000 nM) has an $EC_{50}$ value of 0.013 μM for α-synuclein (α-syn) toxicity rescue[1].
YTX-465 (0.05 μM; 0-2 days) rescue the growth of α-Syn-expressing yeast[1].
YTX-465 (0, 10, 40, 160, 640, 2500 nM; 4h) increases the level of Ole1 protein in wild-type yeast expressing OLE1 in a

concentration-dependent manner, that indicate YTX-465 induce a negative feedback loop[1].

YTX-465 (0, 0.03, 0.09, 0.27, 0.81 μM; 6 hours) reduces fatty desaturation in a concentration-dependent manner in wild-type yeast, with a 50% reduction in desaturation at 0.03 μM[1].

YTX-465 (0.25 μM; 8 hours) decreases the desaturation index (DI) for all major classes of membrane phospholipids in wild-type yeast[1].

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

## REFERENCES

[1]. Vincent BM, et al. Inhibiting Stearoyl-CoA Desaturase Ameliorates α-Synuclein Cytotoxicity. Cell Rep. 2018 Dec 4;25(10):2742-2754.e31.



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