# T863

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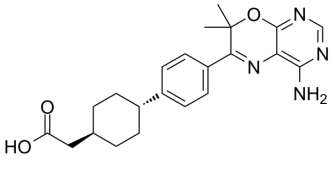
|---|---|
| **Cat. No.:** | HY-32219 |
| **CAS No.:** | 701232-20-4 |
| **Molecular Formula:** | $C_{22}H_{26}N_4O_3$ |
| **Molecular Weight:** | 394.47 |
| **Target:** | Acyltransferase |
| **Pathway:** | Metabolic Enzyme/Protease |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 2 years<br>-20°C 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : ≥ 50 mg/mL (126.75 mM)

* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.5350 mL | 12.6752 mL | 25.3505 mL |
| 5 mM | 0.5070 mL | 2.5350 mL | 5.0701 mL |
| 10 mM | 0.2535 mL | 1.2675 mL | 2.5350 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.34 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

T863 is an orally active, selective and potent DGAT1 (acyl-CoA:diacylglycerol acyltransferase 1) inhibitor with an $IC_{50}$ of 15 nM. T863 has no inhibitory activity against human MGAT3, human DGAT2, or human MGAT2. T863 interacts with the acyl-CoA binding site of DGAT1, and inhibits triacylglycerol synthesis in cells[1][2].

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

IC50: 15 nM (DGAT1)[2]

**In Vitro**

T863 (for 3 days) enhanceS insulin-stimulated glucose uptake, suggesting a possible role for adipocytes to improve insulin sensitivity upon DGAT1 inhibition in differentiated 3T3-L1 adipocytes[1].

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

**In Vivo**

T863 (30 mg/kg; oral administration) causes weight loss, reduction in serum and liver triglycerides, and improved insulin

sensitivity[1].

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| Animal Model: | C57BL6 normal mice (8 weeks old) or diet-induced obese (DIO) mice (10 months old, fed a high fat diet for 8 months)[1] |
| Dosage: | 30 mg/kg (5 μL/g) |
| Administration: | Oral administration; once a day for days 1-7 and twice a day for days 8-14 |
| Result: | Significantly delayed fat absorption and resulted in lipid accumulation in the distal small intestine of mice, mimicking the effects of genetic ablation of DGAT1. |

## CUSTOMER VALIDATION

- Nat Commun. 2023 May 29;14(1):3100.
- J Exp Med. 2021 Sep 6;218(9):e20202637.
- Front Oncol. 2021 Apr 22;11:665763.
- Front Oncol. 2021 Apr 6.
- Aquaculture. 2021 October 15, 543, 736967.

See more customer validations on www.MedChemExpress.com

## REFERENCES

[1]. Cao J, et al. Targeting Acyl-CoA:diacylglycerol acyltransferase 1 (DGAT1) with small molecule inhibitors for the treatment of metabolic diseases. J Biol Chem. 2011 Dec 2;286(48):41838-51.

[2]. Alan M Birch, et al. Discovery of a potent, selective, and orally efficacious pyrimidinooxazinyl bicyclooctaneacetic acid diacylglycerol acyltransferase-1 inhibitor. J Med Chem. 2009 Mar 26;52(6):1558-68.



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