# TUG-469

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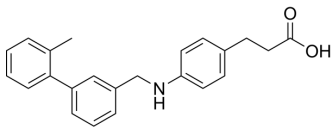
| **Cat. No.:** | HY-123297 |
| **CAS No.:** | 1236109-67-3 |
| **Molecular Formula:** | $C_{23}H_{23}NO_2$ |
| **Molecular Weight:** | 345.43 |
| **Target:** | Free Fatty Acid Receptor |
| **Pathway:** | GPCR/G Protein |
| **Storage:** | Powder -20°C 3 years<br>4°C 2 years<br>In solvent -80°C 6 months<br>-20°C 1 month |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (289.49 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.8949 mL | 14.4747 mL | 28.9494 mL |
| 5 mM | 0.5790 mL | 2.8949 mL | 5.7899 mL |
| 10 mM | 0.2895 mL | 1.4475 mL | 2.8949 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

TUG-469 is a selective free fatty acid receptor 1 (FFA1/GPR40) agonist with an $EC_{50}$ value of 19 nM. TUG-469 is >200-fold selective for FFA1 over FFA4. TUG-469 significantly improves glucose tolerance in pre-diabetic mice. TUG-469 can be used for the research of diabetes[1][2].

**In Vitro**

TUG-469 (0-10 μM) shows efficacy to hFFA1 with a $pEC_{50}$ value of 7.73[1].
TUG-469 (10 μM) increases the insulin secretion under 10 mM glucose stimulation[1].
TUG-469 (0-100 μM) is >200-fold selective for FFA1 over FFA4 with $EC_{50}$ values of 19 nM and 4.4 μM for FFA1 and FFA4, respectively[2].
TUG-469 (5 μM; 30 min) significantly increases insulin secretion of INS-1 cells with the presence of high glucose concentration (16.7 mM)[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

**In Vivo**

TUG-469 (5 mg/kg; i.p.; 60 and 90 min after glucose administration) affects blood glucose level[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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| Animal Model: | Male NZO mice with glucose administration[2] |
| Dosage: | 5 mg/kg |
| Administration: | Intraperitoneal injection; 5 mg/kg; 60 and 90 min after glucose administration |
| Result: | Reduced the blood glucose level. |

## REFERENCES


[1]. Christiansen E, et al. Structure-Activity Study of Dihydrocinnamic Acids and Discovery of the Potent FFA1 (GPR40) Agonist TUG-469. ACS Med Chem Lett. 2010 Jul 2;1(7):345-9.

[2]. Urban C, et al. In vitro and mouse in vivo characterization of the potent free fatty acid 1 receptor agonist TUG-469. Naunyn Schmiedebergs Arch Pharmacol. 2013 Dec;386(12):1021-30.





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