DAMGO TFA

Cat. No.: HY-P0210B

CAS No.: 950492-85-0

Molecular Formula: $C_{28}H_{36}F_3N_5O_8$

Molecular Weight: 627.61

Sequence: Tyr-{d-Ala}-Gly-{Me-Phe}-Gly-ol

Sequence Shortening: Y-{d-Ala}-G-{Me-Phe}-G-ol

Target: Opioid Receptor

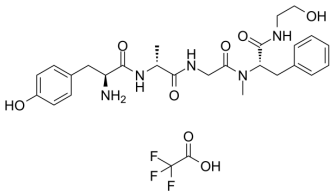
Pathway: GPCR/G Protein; Neuronal Signaling

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

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



SOLVENT & SOLUBILITY

In Vitro

H_2O : 125 mg/mL (199.17 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	1.5933 mL	7.9667 mL	15.9335 mL
5 mM	0.3187 mL	1.5933 mL	3.1867 mL
10 mM	0.1593 mL	0.7967 mL	1.5933 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (159.33 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

DAMGO TFA is a μ-opioid receptor (μ-OPR) selective agonist with a K_d of 3.46 nM for native μ-OPR[1].

In Vitro

DAMGO (1-10 μM) TFA significantly reduces the activation of neuronal Akt and ERK1/2 by CXCL12 and inhibits CXCL12-promoted neuronal survival, but does not down-regulate CXCR4 protein expression[2].

DAMGO (1 μM) TFA effectively inhibits the prostaglandin E 2 (PGE 2) induced increase in a tetrodotoxin-resistant voltage-gated Na^+ current (TTX-R I_{Na}), i.e. PGE 2 (1 μM) can increase the TTX-R I_{Na} peak by 103 % compared to 24.9 % with the addition of DAMGO[3].

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

In Vivo

DAMGO (i.v., 0.5-2 mg/kg) TFA can produce significant anti-injury effects on injured paws of male Sprague-Dawley rats

weighing 200-225 g in a dose-dependent manner, producing an effective and long-lasting analgesic effect[4].

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

CUSTOMER VALIDATION

- Cell. 2022 Nov 10;185(23):4361-4375.e19.

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REFERENCES

[1]. Patel JP, et al. Modulation of neuronal CXCR4 by the micro-opioid agonist DAMGO. J Neurovirol. 2006 Dec;12(6):492-500.

[2]. Gold MS, et al. DAMGO inhibits prostaglandin E2-induced potentiation of a TTX-resistant Na+ current in rat sensory neurons in vitro. Neurosci Lett. 1996 Jul 12;212(2):83-6.

[3]. Desmeules JA, et al. Selective opioid receptor agonists modulate mechanical allodynia in an animal model of neuropathic pain. Pain. 1993 Jun;53(3):277-285.

[4]. FEBS Lett. 1995 Jan 2;357(1):93-7. Onogi T, et al. DAMGO, a mu-opioid receptor selective agonist, distinguishes between mu- and delta-opioid receptors around their first extracellular loops.

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