Deltorphin I

Cat. No.: HY-P1336

CAS No.: 122752-15-2

Molecular Formula: $C_{37}H_{52}N_8O_{10}$

Molecular Weight: 768.86

Sequence: Tyr-{d-Ala}-Phe-Asp-Val-Val-Gly-NH2

Sequence Shortening: Y-{d-Ala}-FDVVG-NH2

Target: Opioid Receptor

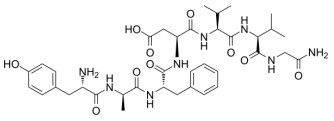
Pathway: GPCR/G Protein; Neuronal Signaling

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

DMSO : 25 mg/mL (32.52 mM; Need ultrasonic)

Preparing Stock Solutions	Concentration / Solvent / Mass	1 mg	5 mg	10 mg
	1 mM	1.3006 mL	6.5031 mL	13.0063 mL
	5 mM	0.2601 mL	1.3006 mL	2.6013 mL
	10 mM	0.1301 mL	0.6503 mL	1.3006 mL

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

BIOLOGICAL ACTIVITY

Description

Deltorphin I is a δ-opioid receptor agonist with high affinity and selectivity.

IC_{50} & Target

δ-opioid receptor[1]

In Vivo

Twice daily administration of Deltorphin I (20μg/mouse) for 4 days produces tolerance to Deltorphin I analgesia, as shown by the decrease in the analgesic response. The peak analgesic response to Deltorphin I (20 μg/mouse) at 10 min after injections is decreased from 8.36±0.28 s (the 1st day) to 4.53±0.14 s (the 4th day) markedly. Concurrent treatment of Melatonin (0.5, 1 and 2.5 mg/kg) and Deltorphin I (20 μg/mouse) twice daily for 4 days can attenuate the tolerance to Deltorphin I analgesia (P<0.05, <0.05 and <0.05), and this effect is dose dependent[1].

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

PROTOCOL

Animal Administration [1]

Mice[1]

Male Kunming mice (20.0±1.0 g) are used. In order to investigate the chronic effect of Melatonin on opioid receptor agonist analgesia, 18, 17, 16 and 21 mice are treated with Melatonin (0, 0.5, 1 and 2.5 mg/kg, respectively) twice daily for 4 days. On the 5th day, 8, 8, 8 and 9 mice are administered with Endomorphin-1 18 μg/mouse (corresponding to 0, 0.5, 1 and 2.5 mg/kg Melatonin, respectively), while 10, 9, 8 and 12 mice are administered with Deltorphin I 20 μg/mouse (corresponding to 0, 0.5, 1 and 2.5 mg/kg Melatonin, respectively). Subsequently tail-flick latency is measured at 10 min interval within 60 min[1].

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

REFERENCES

[1]. Dai X, et al. Melatonin attenuates the development of antinociceptive tolerance to delta-, but not to mu-opioid receptor agonist in mice. Behav Brain Res. 2007 Aug 22;182(1):21-7.

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