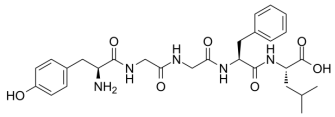
[Leu5]-Enkephalin

Cat. No.:	HY-P0288
CAS No.:	58822-25-6
Molecular Formula:	$C_{28}H_{37}N_5O_7$
Molecular Weight:	555.62
Sequence:	Tyr-Gly-Gly-Phe-Leu
Sequence Shortening:	YGGFL
Target:	Opioid Receptor; Endogenous Metabolite
Pathway:	GPCR/G Protein; Neuronal Signaling; Metabolic Enzyme/Protease
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 : ≥ 125 mg/mL (224.97 mM)

H_2O : 100 mg/mL (179.98 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	1.7998 mL	8.9990 mL	17.9979 mL
5 mM	0.3600 mL	1.7998 mL	3.5996 mL
10 mM	0.1800 mL	0.8999 mL	1.7998 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 6.67 mg/mL (12.00 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

[Leu5]-Enkephalin is a pentapeptide with morphine like properties. [Leu5]-Enkephalin is a five amino acid endogenous peptide that acts as an agonist at opioid receptors.

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

Enkephalins (met- , leu-enkephalin, and enkephalin 8) and dynorphins are two classes of opioid peptides found in the spinal dorsal horn. Mu, delta, and kappa are three major subtypes of opioid receptors. Enkephalins are putative endogenous ligands for delta opioid receptors, and dynorphins are endogenous ligands for the kappa opioid receptors. Three receptor

types resembling the vertebrate δ- and κ-type opioid receptors have been characterized pharmacologically in nervous tissues (e.g. K_i=18.9 nM for Leu-enkephalin) and localized by autoradiography at CHH terminals in the SG of C. maenas[1]. Leucine-enkephalin is a pentapeptides with morphine like properties, naturally present in mammalian brain[2].

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

REFERENCES

[1]. Leu-enkephalin is a five amino acid endogenous peptide that acts as an agonist at opioid receptors.

[2]. Meunier JC, et al. Binding of Leu5-enkephalin and Met5-enkephalin to a particulate fraction from rat cerebrum. FEBS Lett. 1977 May 15;77(2):209-13.

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