## [Leu5]-Enkephalin

Cat. No.:	HY-P0288				
CAS No.:	58822-25-6				
Molecular Formula:	C <sub>28</sub> H <sub>37</sub> N <sub>5</sub> O <sub>7</sub>				
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 : ≥ 150 r         H <sub>2</sub> O : 100 mg/       * "≥" means so         * "≥" means so       Preparing         Stock Solution       Please refer to	DMSO : ≥ 150 mg/mL (269.97 mM) H <sub>2</sub> O : 100 mg/mL (179.98 mM; Need ultrasonic) * "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	Solvent Mass Concentration	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 <sub>50</sub> & Target	Human Endogenous Metabolite	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					

# Product Data Sheet

H H i OH

ligands for delta opioid receptors, and dynorphins are endogenous ligands for the kappa opioid receptors. Three receptor types resembling the vertebrate  $\delta$ - and  $\kappa$ -type opioid receptors have been characterized pharmacologically in nervous tissues (e.g. K<sub>i</sub>=18.9 nM for Leu-enkephalin) and localized by autoradiography at CHH terminals in the SG of C. maenas<sup>[1]</sup>. Leucine-enkephalin is a pentapeptides with morphine like properties, naturally present in mammalian brain<sup>[2]</sup>. 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.

#### Caution: Product has not been fully validated for medical applications. For research use only.

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