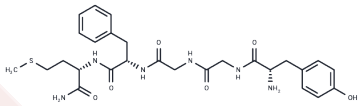
Data Sheet (Cat.No.TP1255)

TargetMol

5-Methionine-enkephalin amide

Chemical Properties



CAS No. : 60117-17-1

Formula: C27H36N6O6S

Molecular Weight: 572.68

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	5-Methionine-enkephalin amide ([Met5]-Enkephalin, amide) is an agonist for δ opioid receptors as well as putative ζ (zeta) opioid receptors. 5-Methionine-enkephalin amide circulates in several forms, potentially derived from proteins other than proenkephalin A, and plasma levels of both free native and peptidase-derivable 5-Methionine-enkephalin amide are physiologically modulated.
Targets(IC50)	Opioid Receptor
In vitro	Method: Distal colonic longitudinal muscle strips (with pelvic nerves) isolated from cats were treated with 5-Methionine-enkephalin amide (1×10^{-10}–3×10^{-8} M). Contractions were evoked by electrical stimulation of the pelvic nerves (2 Hz, 120 mA, 0.5 ms, 10 s, 1 min intervals), and the percentage of inhibition was recorded. Result: 5-Methionine-enkephalin amide concentration-dependently inhibited pelvic nerve-evoked longitudinal muscle contractions, with an IC_{50} of 2.2×10^{-9} M (95% CI: 9.4×10^{-10}–5.8×10^{-9} M). The effect was rapid in onset and completely reversible upon washing[1]. Method: Primary mixed glial cell cultures from the brains of 1-day-old neonatal ICR mice were treated continuously with 5-Methionine-enkephalin amide (10^{-10}, 10^{-8}, 10^{-6} M). Total cell numbers were counted using a hemocytometer on days 3, 6, and 8 of culture. Result: 5-Methionine-enkephalin amide dose-dependently reduced the total number of mixed glial cells. On day 6, cell counts in the 10^{-6} M and 10^{-8} M groups decreased to 45% and 44% of the control, respectively, while the 10^{-10} M group decreased to 65% of the control[2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7462 mL	8.7309 mL	17.4618 mL
5 mM	0.3492 mL	1.7462 mL	3.4924 mL
10 mM	0.1746 mL	0.8731 mL	1.7462 mL
50 mM	0.0349 mL	0.1746 mL	0.3492 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Kennedy C, et al. [Met5]enkephalin acts via delta-opioid receptors to inhibit pelvic nerve-evoked contractions of cat distal colon. Br J Pharmacol. 1987;92(2):291-298.
Stiene-Martin A, et al. Glial growth is regulated by agonists selective for multiple opioid receptor types in vitro. J Neurosci Res. 1991 Aug;29(4):538-48.