Product Data Sheet

Product Name: Eledoisin-Related Peptide
Cat. No.: GC15230

Chemical Properties

Cas. No.	2990-43-4		
Chemical Name	(S)-2,6-diamino-N-((5S,8S,14S,17S)-14-((S)-sec-butyl)-5-carbamoyl-8-isobutyl-7,10,13,16-tetraoxo-18-phenyl-2-thia-6,9,12,15-tetraazaoctadecan-17-yl)hexanamide		
SMILES	O=C([C@H]([C@@H](C)CC)NC([C@H](CC1=CC=CC=C1)NC([C@H](CCCCN)N)=O)=O)NCC(N[C@H](C(N[C@H](C(N)=O)CCSC)=O)CC(C)C)=O		
Formula	$C_{34}H_{58}N_8O_6S$	M.Wt	706.94
Solubility	Soluble in water	Storage	Desiccate at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Eledoisin-Related Peptide		

Protocol

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Animal experiment:

Rats[2]Twenty-two male albino rats (230-260 g) are anesthetized with chloral hydrate (400 mg/kg, i.p.) and prepared for recording. Briefly, a singlebarrel recording pipette (tip 1 µm) is glued alongside a conventional five-barrel micropipette (tip 15-25/µm) then filled with 2 M NaCI saturated with Fast Green (impedance 4-7 M). The distance between the tip of the recording electrode and that of the five-barrel micropipette is 15-25/zm. Fast Green is ejected at the end of the experiment to identify the recording site. One side barrel of the five-barrel micropipette is loaded with 4 M NaCI for automatic current balancing and the others with three of the following solutions: L-epinephrine bitartrate (0. l M, pH 4.0), L-norepinephrine bitartrate (0.1 M, pH 4.0), Substance P (2.75 mM), physalaemin (2.6 mM), substance P 4-11 octapeptide (3.1 mM), eledoisin-related peptide (20 mM), neurotensin, bradykinin triacetate (15 mM), met-enkephalin (6.5 mM), TRH (48 mM). Spontaneously active cells are recorded in the locus coeruleus or in the nearby mesencephalic nucleus of the fifth nerve whose cells are easily identified by their increased activity upon manipulation of the jaw[2].

References:

[1]. Severini C, et al. The tachykinin peptide family. Pharmacol Rev. 2002 Jun;54(2):285-322.
[2]. Guyenet PG, et al. Excitation of neurons in the

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nucleus locus coeruleus by substance P and related peptides. Brain Res. 1977 Nov 4;136(1):178-84.
[3]. Henry JL, et al. Effects of glutamate, substance P and eledoisin-related peptide on solitary tract neurones involved in respiration and respiratory reflexes. Neuroscience. 1985 Mar;14(3):863-73.

Background

Eledoisin Related Peptide is a Substance P analog that excites neurons and triggers behavioral responses. Eledoisin Related Peptide is also a tachykinin receptor ligand.

Eledoisin Related Peptide shares with Substance P (SP) a common N-terminal amino acid sequence and has been shown by to have SP-like activity in the periphery (gut and salivary glands) and the CNS. Eledoisin-related peptide seems to be roughly equipotent

with Substance P at identical ejection currents on the single-cell activity of neurons in this nucleus[2]. Both glutamate and substance P (and its analogue, eledoisin-related peptide) have excitatory effects on the activity of respiratory neurons and reflex interneurons[3].

References:

[1]. Severini C, et al. The tachykinin peptide family. Pharmacol Rev. 2002 Jun;54(2):285-322.
[2]. Guyenet PG, et al. Excitation of neurons in the nucleus locus coeruleus by substance P and related peptides. Brain Res. 1977 Nov 4;136(1):178-84.
[3]. Henry JL, et al. Effects of glutamate, substance P and eledoisin-related peptide on solitary tract neurones involved in respiration and respiratory reflexes. Neuroscience. 1985 Mar;14(3):863-73.

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