Product Data Sheet

Product Name: Dynorphin A 1-10
Cat. No.: GC35918

Chemical Properties

Cas. No.	79994-24-4		
Formula	$C_{57}H_{91}N_{19}O_{12}$	M.Wt	1234.45
Solubility	Soluble in DMSO	Storage	Store 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	Dynorphin A 1-10		

Background

Dynorphin A (1-10) an endogenous opioid neuropeptide, binds to extracellular loop 2 of the κ-opioid receptor. Dynorphin A (1-10) also blocks NMDA-activated current with an IC50 of 42.0 μM. κ-opioid receptor[1]NMDA receptor[2]

Dynorphin A (1-10) binds in the transmembrane domain of the κ-receptor[1]. The non-opioid actions of various forms of Dynorphin A (DynA) are examined on N-methyl-D-aspartate (NMDA) receptor channels in isolated rat trigeminal neurons using the whole-cell patch recording technique. All the dynorphins tested blocked NMDA-activated currents. The blocking actions are voltage-independent. The IC50 is 42.0 μM for DynA(1-10). To determine if shorter dynorphins have the similar blocking property, we examined the action of DynA(1-10) at different membrane potentials. DynA(1-10) blocks INMDA to a similar extent as the membrane potentials changed from -80 to +60 mV. Thus, despite a 160-fold difference in the apparent affinities, DynA(1-32) and DynA(1-10) both exert voltage-independent actions on NMDA receptors[2].

[1]. Paterlini G, et al. Molecular simulation of dynorphin A-(1-10) binding to extracellular loop 2 of the kappa-opioidreceptor. A model for receptor activation. J Med Chem. 1997 Sep 26;40(20):3254-62. [2]. Chen L, et al. Dynorphin block of N-methyl-D-aspartate

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channels increases with the peptide length. J Pharmacol Exp Ther. 1998 Mar;284(3):826-31.

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