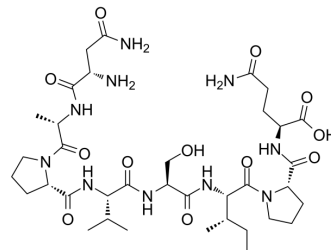


Davunetide

Cat. No.:	HY-105066
CAS No.:	211439-12-2
Molecular Formula:	C ₃₆ H ₆₀ N ₁₀ O ₁₂
Molecular Weight:	824.92
Sequence Shortening:	NAPVSI PQ
Target:	Microtubule/Tubulin; Amyloid-β
Pathway:	Cell Cycle/DNA Damage; Cytoskeleton; Neuronal Signaling
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 (151.53 mM; Need ultrasonic)				
	H ₂ O : 100 mg/mL (121.22 mM; Need ultrasonic)				
	Preparing Stock Solutions	Solvent \ Mass \ Concentration	1 mg	5 mg	10 mg
		1 mM	1.2122 mL	6.0612 mL	12.1224 mL
5 mM		0.2424 mL	1.2122 mL	2.4245 mL	
	10 mM	0.1212 mL	0.6061 mL	1.2122 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (2.52 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Davunetide is an eight amino acid snippet derived from activity-dependent neuroprotective protein (ADNP), a neurotrophic factor that exists in the mammalian CNS. Davunetide possesses neuroprotective, neurotrophic and cognitive protective properties. Davunetide, a microtubule-stabilizing peptide, interacts with and stabilises neuron-specific βIII-tubulin in vitro. Davunetide penetrates the blood-brain barrier and is non-toxic. Davunetide inhibits Aβ aggregation and Aβ-induced neurotoxicity ^{[1][2][3]} .
In Vivo	Davunetide (2 μg/kg; Intranasally; daily, 5 days a week, for 16 weeks) shows protective effects for central nervous system complications in a diabetes rat model ^[3] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (Induced by an i.p. streptozotocin (STZ) injection) ^[3]
Dosage:	2 µg/kg
Administration:	Intranasally beginning on the day following the STZ injection and were given daily, 5 days a week, for 16 weeks
Result:	Impaired spatial memory of the diabetic rats was observed in the water maze by attenuated learning curve and worsened performance in the probe memory test. Davunetide treatment significantly improved both measurements.

REFERENCES

- [1]. Quraishe S, et al. NAP (davunetide) rescues neuronal dysfunction in a Drosophila model of tauopathy. *Mol Psychiatry*. 2013;18(7):834-842.
- [2]. Zhang J, et al. Davunetide improves spatial learning and memory in Alzheimer's disease-associated rats. *Physiol Behav*. 2017;174:67-73.
- [3]. Idan-Feldman A, et al. Davunetide (NAP) as a preventative treatment for central nervous system complications in a diabetes rat model. *Neurobiol Dis*. 2011;44(3):327-339.

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

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