

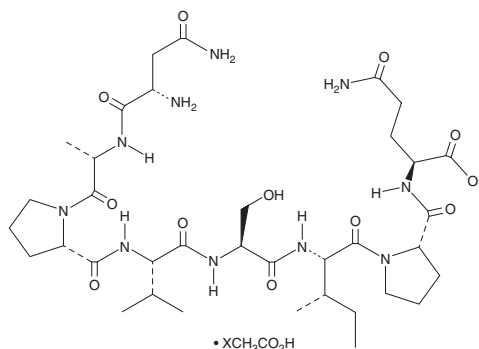
PRODUCT INFORMATION



Davunetide (acetate)

Item No. 35487

Formal Name: L-asparaginyl-L-alanyl-L-valyl-L-seryl-L-isoleucyl-L-prolyl-L-glutamine, acetate
Synonyms: AL-108, NAP, NAPVSIPQ
MF: C₃₆H₆₀N₁₀O₁₂ • XC₂H₄O₂
FW: 824.9
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Davunetide (acetate) is supplied as a solid. A stock solution may be made by dissolving the davunetide (acetate) in the solvent of choice, which should be purged with an inert gas. Davunetide (acetate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of davunetide (acetate) in these solvents is approximately 1 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of davunetide (acetate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of davunetide (acetate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Davunetide is a neuroprotective peptide derived from activity-dependent neuroprotective protein (ADNP).¹ It promotes tubulin assembly in a cell-free assay when used at a concentration of 1 fM.² Davunetide (1 fM) protects against cytotoxicity induced by tetrodotoxin (Item Nos. 14963 | 14964), a peptide derived from amyloid-β (Aβ), or zinc in isolated neonatal cerebral cortical cells.^{1,2} Intravitreal administration of davunetide (4 μl of a 100 μg/ml solution) inhibits increases in cleaved caspase-3 and decreases in Bcl-2 levels in retina isolated from streptozotocin-induced diabetic rats.³ It improves survival in a superoxide dismutase 1 mutant (SOD1^{G93A}) transgenic mouse model of amyotrophic lateral sclerosis (ALS) when administered at 10 μg/animal.⁴ Davunetide prevents decreases in brain choline acetyltransferase (ChAT) activity and prevents memory deficits in the Morris water maze in an *Apoe*^{-/-} mouse model of neurodegeneration.¹

References

1. Bassan, M., Zamostiano, R., Davidson, A., *et al.* Complete sequence of a novel protein containing a femtomolar-activity-dependent neuroprotective peptide. *J. Neurochem.* **72**(3), 1283-1293 (1999).
2. Divinski, I., Mittelman, L., and Gozes, I. A femtomolar acting octapeptide interacts with tubulin and protects astrocytes against zinc intoxication. *J. Biol. Chem.* **279**(27), 28531-28538 (2004).
3. Scuderi, S., D'Amico, A.G., Castorina, A., *et al.* Davunetide (NAP) protects the retina against early diabetic injury by reducing apoptotic death. *J. Mol. Neurosci.* **54**(3), 395-404 (2014).
4. Jouroukhin, Y., Ostritsky, R., Assaf, Y., *et al.* NAP (davunetide) modifies disease progression in a mouse model of severe neurodegeneration: Protection against impairments in axonal transport. *Neurobiol. Dis.* **56**, 79-94 (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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