

PRODUCT INFORMATION



Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt)

Item No. 21639

Formal Name: N-acetyl-L-norleucyl-L-prolyl-L-norleucyl-N-(4-methyl-2-oxo-2H-1-benzopyran-7-yl)-L- α -asparagine, trifluoroacetate salt

Synonyms: Ac-Nle-Pro-Nle-Asp-7-amido-4-Methylcoumarin, Ac-nLPnLD-AMC

MF: C₃₃H₄₅N₅O₉ • XCF₃COOH

FW: 655.7

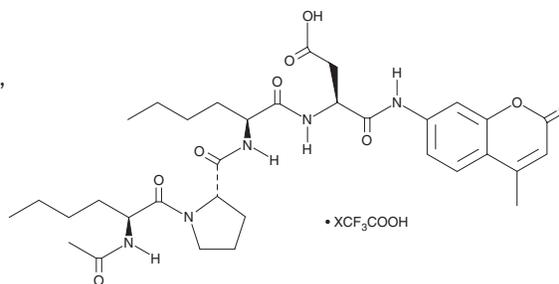
Purity: ≥98%

UV/Vis.: λ_{\max} : 278, 316 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥2 years



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

Laboratory Procedures

Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Ac-Nle-Pro-Nle-Asp-AMC (trifluoroacetate salt) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Ac-Nle-Pro-Nle-Asp-AMC is a substrate for proteasomes that is cleaved by the caspase-like site, also known as postglutamyl peptide hydrolase (PGPH), with specific activities of 113 and 6.6 nmol/min/mg by the 26S (rabbit muscle) and 20S (yeast) proteasomes, respectively.¹ Caspase-like activity can be quantified by fluorescent detection of free AMC (also known as 7-amino-4-methylcoumarin), which is excited at 340-360 nm and emits at 440-460 nm. Ac-Nle-Pro-Nle-Asp-AMC inhibits the chymotrypsin-like activity of the proteasome allosterically when bound to the caspase-like site.¹ It has been used to determine L-DOPA's (Item No. 13248) effects on protein turnover rates.²

References

1. Kisselev, A.F., Garcia-Calvo, M., Overkleeft, H.S., *et al.* The caspase-like sites of proteasomes, their substrate specificity, new inhibitors and substrates, and allosteric interactions with the trypsin-like sites. *J. Biol. Chem.* **278**(38), 35869-35877 (2003).
2. Dunlop, R.A., Dean, R.T., and Rodgers, K.J. The impact of specific oxidized amino acids on protein turnover in J774 cells. *Biochem J.* **410**(1), 131-140 (2008).

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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