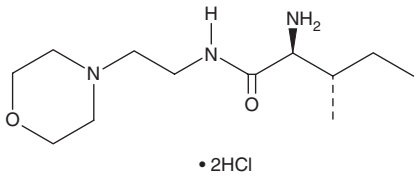
PRODUCT INFORMATION

LM11A-31 (hydrochloride)

Item No. 21982

CAS Registry No.:	1243259-19-9
Formal Name:	(2S,3S)-2-amino-3-methyl-N-[2-(4-morpholinyl)ethyl]-pentanamide, dihydrochloride
MF:	$C_{12}H_{25}N_3O_2 \bullet 2HCl$
FW:	316.3
Purity:	≥95%
UV/Vis.:	λ_{max}: 204 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

LM11A-31 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the LM11A-31 (hydrochloride) in the solvent of choice. LM11A-31 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of LM11A-31 (hydrochloride) in ethanol is approximately 20 mg/ml and approximately 50 mg/ml in DMSO and DMF.

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 LM11A-31 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of LM11A-31 (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

LM11A-31 is a p75 neurotrophin receptor ($p75^{NTR}$) ligand that inhibits nerve growth factor (NGF) binding to $p75^{NTR}$-Fc (A_2 = 1,192 nM).[1] It inhibits DNA damage in and promotes survival of hippocampal neuronal cultures in a $p75^{NTR}$- and concentration-dependent manner. LMA11A-31 also inhibits proNGF-induced cell death of mature oligodendrocytes. *In vivo*, LMA11A-31 (10-100 mg/kg) improves motor function and coordination in the weight-bearing open-field test and nonweight-bearing swim test and increases survival of oligodendrocytes in a mouse model of spinal contusion injury.[2] It prevents and/or reverses atrophy of forebrain cholinergic neurites and cortical dystrophic neurites in Thy-1 $hAPP^{Lond/Swe}$ and Tg2576 mice with mid- to late stage Alzheimer's disease.[3] It also reduces excessive alcohol self-administration in rats and decreases huntingtin (Htt) aggregate formation and striatal cholinergic degeneration in the R6/2 mouse model of Huntington's disease.[4,5]

References

1. Massa, S.M., Xie, Y., Yang, T., *et al. J. Neurosci.* **26(20)**, 5288-5300 (2006).
2. Tep, C., Lim, T.H., Ko, P.O., *et al. J. Neurosci.* **33(2)**, 397-410 (2013).
3. Simmons, D.A., Knowles, J.K., Belichenko, N.P., *et al. PLoS One* **9(8)**, e102136 (2014).
4. Darcq, E., Morisot, N., Phamluong, K., *et al. J. Neurosci.* **36(39)**, 10116-10127 (2016).
5. Simmons, D.A., Belichenko, N.P., Ford, E.C., *et al. Hum. Mol. Genet.* **25(22)**, 4920-4938 (2016).

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