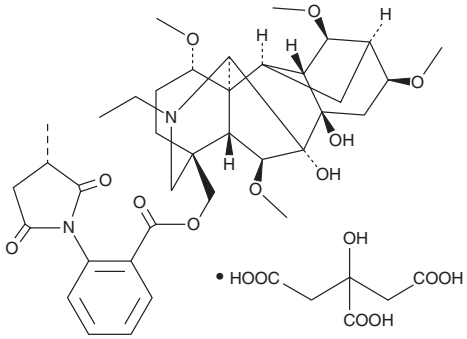
PRODUCT INFORMATION

Methyllycaconitine (citrate)

Item No. 21398

CAS Registry No.:	351344-10-0
Formal Name:	20-ethyl-1α,6β,14α,16β-tetramethoxy-4-[[[2-[(3S)-3-methyl-2,5-dioxo-1-pyrrolidinyl]benzoyl]oxy]methyl]-aconitane-7,8-diol, 2-hydroxy-1,2,3-propanetricarboxylate
Synonym:	MLA
MF:	$C_{37}H_{50}N_2O_{10} \bullet C_6H_8O_7$
FW:	874.9
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

Methyllycaconitine (MLA) (citrate) is supplied as a solid. MLA is soluble in water to 100 mM.

Description

MLA is an antagonist of α7-containing neuronal nicotinic acetylcholine receptors (nAChRs; K_i = 1.4 nM).[1,2] It is less effective at other nAChRs.[3,4] MLA is used to selectively evaluate the role of α7-containing nAChRs in signaling pathways.[5,6]

References

1. Kalappa, B.I., Sun, F., Johnson, S.R., *et al.* A positive allosteric modulator of α7 nAChRs augments neuroprotective effects of endogenous nicotinic agonists in cerebral ischaemia. *Brit. J. Pharmacol.* **169(8)**, 1862-1878 (2013).
2. Ward, J.M., Cockcroft, V.B., Lunt, G.G., *et al.* Methyllycaconitine: A selective probe for neuronal α-bungarotoxin binding sites. *FEBS Lett.* **270(1-2)**, 45-48 (1990).
3. Eaton, J.B., Peng, J.H., Schroeder, K.M., *et al.* Characterization of human α4β 2-nicotinic acetylcholine receptors stably and heterologously expressed in native nicotinic receptor-null SH-EP1 human epithelial cells. *Mol. Pharmacol.* **64(6)**, 1283-1294 (2003).
4. Grinevich, V.P., Letchworth, S.R., Lindenberger, K.A., *et al.* Heterologous expression of human α6β4β3α5 nicotinic acetylcholine receptors: Binding properties consistent with their natural expression require quaternary subunit assembly including the α5 subunit. *J. Pharmacol. Exper. Ther.* **312(2)**, 619-626 (2005).
5. Fan, B.-S., Zhang, E.-H., Wu, M., *et al.* Activation of α7 nicotinic acetylcholine receptor decreases on-site mortality in crush syndrome through insulin signaling-Na/K-ATPase pathway. *Front. Pharmacol.* **7**, 79 (2016).
6. Liu, L., Yu, J., Zhang, B., *et al.* Alpha7 nicotinic acetylcholine receptor is required for amyloid pathology in brain endothelial cells induced by Glycoprotein 120, methamphetamine and nicotine. *Sci. Rep.* **7**, 40467 (2017).

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