

PRODUCT INFORMATION

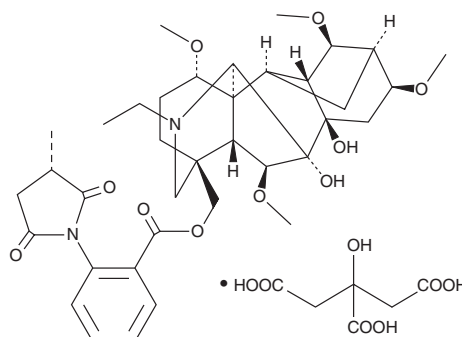


Methyllycaconitine (citrate)

Item No. 21398

CAS Registry No.: 351344-10-0
Formal Name: 20-ethyl-1 α ,6 β ,14 α ,16 β -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: C₃₇H₅₀N₂O₁₀ • C₆H₈O₇
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 $\alpha 7$ -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 $\alpha 7$ -containing nAChRs in signaling pathways.^{5,6}

References

1. Kalappa, B.I., Sun, F., Johnson, S.R., *et al.* A positive allosteric modulator of $\alpha 7$ 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 $\alpha 4\beta 2$ -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 $\alpha 6\beta 4\beta 3\alpha 5$ nicotinic acetylcholine receptors: Binding properties consistent with their natural expression require quaternary subunit assembly including the $\alpha 5$ subunit. *J. Pharmacol. Exper. Ther.* **312**(2), 619-626 (2005).
5. Fan, B.-S., Zhang, E.-H., Wu, M., *et al.* Activation of $\alpha 7$ 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).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/11/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM