

Methyllycaconitine citrate

Catalog No: tcsc0021211



Available Sizes

Size: 5mg

Size: 10mg

Size: 25mg

Size: 50mg



Specifications

CAS No:

112825-05-5

Formula:

$C_{43}H_{58}N_2O_{17}$

Pathway:

Neuronal Signaling;Membrane Transporter/Ion Channel

Target:

nAChR;nAChR

Purity / Grade:

>98%

Solubility:

DMSO : 250 mg/mL (285.74 mM; Need ultrasonic and warming); H2O : 2.18 mg/mL (2.49 mM; Need ultrasonic and warming)

Alternative Names:

MLA

Observed Molecular Weight:

874.92

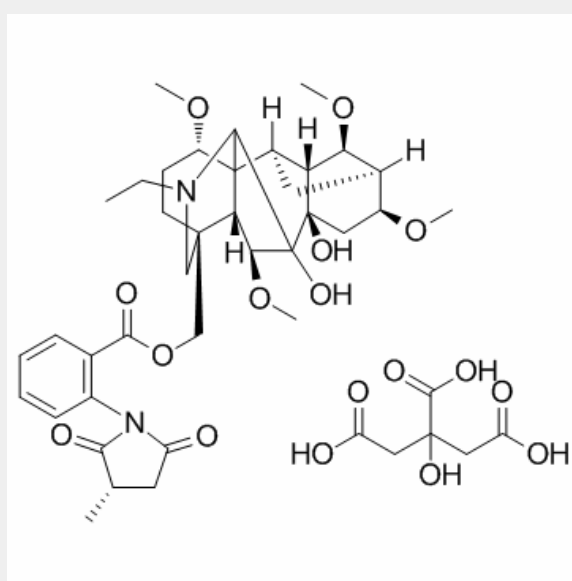
Product Description

Methyllycaconitine citrate is a specific antagonist of **$\alpha 7$ neuronal nicotinic acetylcholine receptor ($\alpha 7$ nAChR)**.

IC50 & Target: $\alpha 7$ nAChR^[1]

In Vitro: Pretreatment with 5 and 10 μ M Methyllycaconitine citrate (MLA) inhibits the decreased cell viability induced by $A\beta_{25-35}$. Cell viability does not decrease after exposure to Methyllycaconitine citrate (2.5, 5, 10, 20 μ M). $A\beta_{25-35}$ treatment increases LC3-II levels, which is inhibited by administration of Methyllycaconitine citrate. Methyllycaconitine citrate also inhibits $A\beta$ -induced autophagosome accumulation in SH-SY5Y cells. Flow cytometry also demonstrates decreased MDC-labeled vacuoles with Methyllycaconitine citrate treatment^[1].

In Vivo: Methyllycaconitine citrate (MLA) (6 mg/kg) given alone intraperitoneally does not cause climbing behavior when compare with the saline group. Pretreatment with Methyllycaconitine citrate significantly inhibits methamphetamine (METH)-induced climbing behavior, by about 50%. Methyllycaconitine citrate does not modify either basal locomotor activity or METH-induced hyperlocomotion. The METH-induced depletion of dopamine neuron terminals is attenuated in mice pretreated with Methyllycaconitine citrate (250 ± 43 fmol/mg, $n=7$). A direct effect of Methyllycaconitine citrate on body temperature is ruled out because Methyllycaconitine citrate does not affect basal body temperature ($37.0 \pm 0.5^\circ\text{C}$, $n=5$) or reduce the METH-induced hyperthermia ($38.2 \pm 0.4^\circ\text{C}$, $n=6$, MLA+METH group, n.s. versus METH group)^[1].



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