

# 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); H<sub>2</sub>O : 2.18 mg/mL (2.49 mM; Need ultrasonic and warming)

**Alternative Names:**

MLA

**Observed Molecular Weight:**

874.92

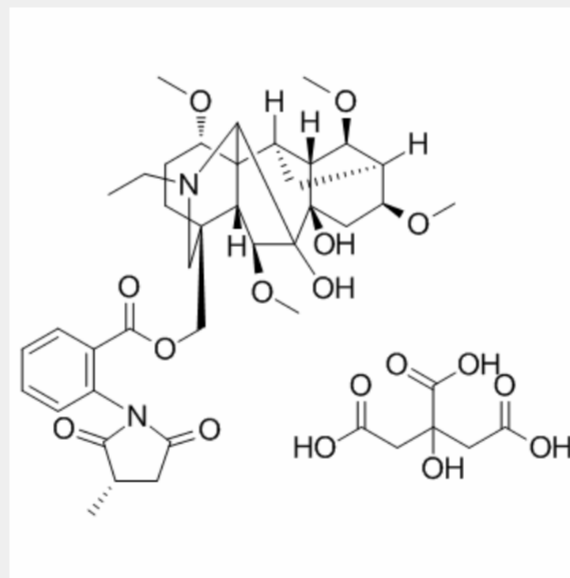
## Product Description

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

IC50 & Target:  $\alpha 7$ nAChR<sup>[1]</sup>

**In Vitro:** Pretreatment with 5 and 10  $\mu$ 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  $\mu$ 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<sup>[1]</sup>.

**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 ( $250 \pm 43$  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)<sup>[1]</sup>.



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