

# Chlorotoxin

**Catalog No: tcsc0042493**



## Available Sizes

**Size:** 100ug

**Size:** 500ug

**Size:** 1mg

**Size:** 100μg

**Size:** 500μg



## Specifications

**CAS No:**

163515-35-3

**Formula:**

$C_{158}H_{249}N_{53}O_{47}S_{11}$

**Pathway:**

Membrane Transporter/Ion Channel

**Target:**

Chloride Channel

**Purity / Grade:**

>98%

**Solubility:**

10 mM in DMSO

**Observed Molecular Weight:**

3995.71

## Product Description

Chlorotoxin is a 36 amino-acid peptide from the venom of the Israeli scorpion *Leiurus quinquestriatus* with anticancer activity. Chlorotoxin is a **chloride channel** blocker.

IC50 & Target: Target: Chloride Channel<sup>[1]</sup>

**In Vitro:** Chlorotoxin (Chlorotoxin) preferentially binds to tumor cells and has been harnessed to develop an imaging agent to help visualize tumors during surgical resection. In addition, chlorotoxin has potential as a vehicle to deliver anti-cancer drugs specifically to cancer cells. Chlorotoxin is shown to bind glioma cells, but is unable to bind normal rat astrocytes and Te671, a human rhabdomyosarcoma cell line. Chlorotoxin inhibits the migration of U251MG (glioma) cells, with an IC<sub>50</sub> of 600 nM<sup>[2]</sup>. Chlorotoxin binds to glioma cells is specific and involves high affinity ( $K_d=4.2$  nM) and low affinity ( $K_d=660$  nM) binding sites<sup>[3]</sup>. Small conductance chloride channels are shown to be potently blocked by Chlorotoxin. Chlorotoxin has been used as a general pharmacological tool to investigate the function of chloride channels<sup>[4]</sup>.

**In Vivo:** Chlorotoxin shows insecticidal activity on insects and other invertebrates. After the administration of I-Chlorotoxin to tumor-bearing mice, the peptides accumulated within the tumor<sup>[2]</sup>. Chlorotoxin selectively accumulates in the brain of tumor-bearing mice with calculated brain: muscle ratios of 36.4% of injected dose/g (ID/g), as compared to 12.4%ID/g in control animals<sup>[3]</sup>.

A large, light gray rectangular area with a white square in the center. The word "Chlorotoxin" is written in black text inside the white square.

Chlorotoxin

All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!