Product Datasheet

Chlorotoxin

Product name : Chlorotoxin	**Synonyms :** ChTx
Catalog # : 08CHL001	

Product description

Chlorotoxin (Cltx) is a neurotoxin that was originally isolated from the venom of Leiurus quinquestriatus. **Chlorotoxin** is a specific ligand of **glioma cells**. **Chlorotoxin** binds to Cl^- channels (small conductance epithelial chloride channels) in the brain and spinal cord and inhibits Cl^- influx. **Chlorotoxin** most probably acts as a specific blocker, although residues both inside and outside of the pore region of the Cl^- channels participate in chlorotoxin binding. It was demonstrated that **chlorotoxin** inhibits specifically the activity of **matrix metalloproteinase-2 (MMP-2)** without affecting MMP-1, MMP-3 and MMP-9. MMP-2 are upregulated in glioma cells and related cells making **chlorotoxin** a promising antitumoral drug and diagnosis tool.

Product specifications

AA sequence: Met-Cys^2-Met-Pro-Cys^5-Phe-Thr-Thr-Asp-His-Gln-Met-Ala-Arg-Lys-Cys^{16}-Asp-Asp-Cys^{19}-Cys^{20}-Gly-Gly-Lys-Gly-Arg-Gly-Lys-Cys^{28}-Tyr-Gly-Pro-Gln-Cys^{33}-Leu-Cys^{35}-Arg-NH_2
Disulfide bonds Cys^2-Cys^{19}, Cys^5-Cys^{28}, Cys^{16}-Cys^{33} and Cys^{20}-Cys^{35}
Length (aa): 36
Formula: $C_{158}H_{249}N_{53}O_{47}S_{11}$
Appearance: White lyophilized solid
Molecular Weight: 3995.5 Da
CAS number: [163515-35-3]
Source: Synthetic
Counterion: TFA salts
Solubility: Water or saline buffer, 5 mg/mL maximum (recommendation)

Formulation

Storage/Stability: Shipped at ambient temperature under lyophilized powder. Store at -20°C (-4°F). Do not freeze-thaw. Aliquot sample if required and store at -80°C (-112°F).
Expiry date: One year
Use restrictions: For laboratory use only. Not for drug, household or other uses. Not for use in diagnostic or therapeutic procedures.

Related product

- GaTx1 - #13GTX001: CFTR selective blocker
- GaTx2 - #12GTX002: ClC-2 selective blocker

References

- Deshane J. et al. (2003) Chlorotoxin inhibits glioma cell invasion via matrix metalloproteinase-2. J Biol Chem.
- Lyons SA., et al. (2002) Chlorotoxin, a scorpion-derived peptide, specifically binds to gliomas and tumors of neuroectodermal origin. Glia.
- Debin JA, *et al*. Purification and characterization of chlorotoxin, a chloride channel ligand from the venom of the scorpion. *Am. J. Physiol*.
- Soroceanu L. Modulation of glioma cell migration and invasion using Cl(-) and K(+) ion channel blockers. *J Neurosci*.

For laboratory research use only

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