

Charybdotoxin

Product name : Charybdotoxin	Synonyms : ChTx
Catalog # : 11CHA001	
Product description	
<p>Charybdotoxin (ChTx) is a 37 amino acid peptide isolated from the venom of the scorpion Leiurus quinquestriatus hebraeus that blocks voltage-gated and large conductance Ca²⁺ activated K⁺ channels K_{Ca}1.1 in nanomolar concentrations (IC₅₀ ~ 3 nM). This blockade causes hyperexcitability of the nervous system. The toxin reversibly blocks channel activity by interacting at the external pore of the channel protein with an apparent K_d of 2.1 nM. ChTX also blocks K_{Ca}3.1 (IC₅₀ 5 nM), K_v1.2 (IC₅₀ 14 nM), K_v1.3 (IC₅₀ 2.6 nM) and K_v1.6 (IC₅₀ 2 nM) channels.</p>	
Product specifications	
<p>AA sequence: Pyr-Phe-Thr-Asn-Val-Ser-Cys⁷-Thr-Thr-Ser-Lys-Glu-Cys¹³-Trp-Ser-Val-Cys¹⁷-Gln-Arg-Leu-His-Asn-Thr-Ser-Arg-Gly-Lys-Cys²⁸-Met-Asn-Lys-Lys-Cys³³-Arg-Cys³⁵-Tyr-Ser-OH</p> <p>Disulfide bonds: Cys⁷-Cys²⁸, Cys¹³-Cys³³, and Cys¹⁷-Cys³⁵</p> <p>Length (aa): 37</p> <p>Formula: C₁₇₆H₂₇₇N₅₇O₅₅S₇</p> <p>Appearance: White lyophilized solid</p> <p>Molecular Weight: 4295.82 Da</p> <p>CAS number: 95751-30-7</p> <p>Source: Synthetic</p> <p>Counterion: TFA salts</p> <p>Solubility: Water or saline buffer, 5 mg/mL maximum (recommendation)</p>	
Formulation	
<p>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).</p> <p>Expiry date: One year</p> <p>Use restrictions: For laboratory use only. Not for drug, household or other uses. Not for use in diagnostic or therapeutic procedures.</p>	
Related products:	
<ul style="list-style-type: none"> • Apamin - #08APA001: binds to the SK channels • Maurotoxin - #08MAR001: inhibits Kv1.1, Kv1.2, Kv1.3 (preferentially Kv1.2), and apamin-sensitive SK channels • Leiurotoxin 1 - #10LEI001: binds to SK channels (small conductance Ca²⁺-activated K⁺ channels) • Tamapin - #10TAM001: binds to small conductance Ca²⁺-activated K⁺ channels (SK channels) • Iberitoxin - #12IBX001: blocks K_{Ca}1.1 	
References	
<ul style="list-style-type: none"> • Gimenez-Gallego G., <i>et al.</i> (1988) Purification, sequence, and model structure of charybdotoxin, a potent selective inhibitor of calcium-activated potassium channels. • Sugg E.E., <i>et al.</i> (1990) Synthesis and structural characterization of charybdotoxin, a potent peptidyl inhibitor of the high conductance Ca₂(+)-activated K⁺ channel. • Goldstein SA, Miller C. (1993) Mechanism of charybdotoxin block of a voltage-gated K⁺ channel. • Goldstein SA, <i>et al.</i> (1994) The charybdotoxin receptor of a Shaker K⁺ channel: peptide and channel residues mediating molecular recognition. 	

For laboratory research use only