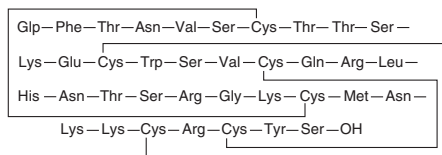


PRODUCT INFORMATION

Charybdotoxin (trifluoroacetate salt)

Item No. 24115

Synonym: ChTX
MF: $C_{176}H_{277}N_{57}O_{55}S_7 \cdot XCF_3COOH$
FW: 4,295.9
Purity: $\geq 95\%$
Supplied as: A lyophilized powder
Storage: $-20^\circ C$
Stability: ≥ 4 years



• XCF_3COOH

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Charybdotoxin (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the charybdotoxin (trifluoroacetate salt) in water. The solubility of charybdotoxin (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Charybdotoxin is a peptide originally isolated from the scorpion *L. quinquistriatus* that acts as a potassium channel blocker.^{1,2} It blocks large-conductance Ca^{2+} -activated K^+ channels (BK_{Ca} s) in GH3 rat pituitary tumor cells and primary bovine aortic smooth muscle cells (K_d s = 2.1 and ~2.1 nM, respectively).² Charybdotoxin selectively blocks voltage-gated potassium (K_v) channels $K_v1.2$ and $K_v1.3$ over $K_v1.1$, $K_v1.5$, and $K_v3.1$ (K_d s = 14, 2.6, >1,000, >100, >1,000 nM, respectively).³ It also blocks human large-conductance pH-activated potassium channel $K_{Ca5.1}$ (Slo3) by 47% at a concentration of 100 nM and pH of 7.4, and human intermediate-conductance Ca^{2+} -activated K^+ channel $IK_{Ca1/K_{Ca3.1}}$ (K_d = 10 nM).^{4,5}

References

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3. Grissmer, S., Nguyen, A.N., Aiyar, J., *et al.* Pharmacological characterization of five cloned voltage-gated K^+ channels, types $K_v1.1$, 1.2, 1.3, 1.5, and 3.1, stably expressed in mammalian cell lines. *Mol. Pharmacol.* **45**(6), 1227-1234 (1994).
4. Sánchez-Carranza, O., Torres-Rodríguez, P., Darszon, A., *et al.* Pharmacology of hSlo3 channels and their contribution in the capacitation-associated hyperpolarization of human sperm. *Biochem. Biophys. Res. Commun.* **466**(3), 554-559 (2015).
5. Logsdon, N.J., Kang, J., Togo, J.A., *et al.* A novel gene, *hKCa4*, encodes the calcium-activated potassium channel in human T lymphocytes. *J. Biol. Chem.* **272**(52), 32723-32726 (1997).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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