3050 Spruce Street
Saint Louis, Missouri 63103 USA
Telephone 800-325-5832 • (314) 771-5765
Fax (314) 286-7828
email: techserv@sial.com
sigma-aldrich.com

ProductInformation

Scyllatoxin
recombinant, expressed in *E. coli*

Catalog Number **S 2321**

Synonyms: Leiurotoxin I; LeTx I scorpion toxin

Product Description

Scyllatoxin, recombinant, with the sequence AFCNLRMCQL SCRSLGLLGK CIGDKCECVK H, is expressed in and extracted from *E. coli* and purified to homogeneity. Scyllatoxin, recombinant, is not amidated at the C-terminus, as is natural scyllatoxin. However, it has been observed that C-terminal amidation has negligible contribution both to activity and selectivity. The peptide concentration and identification were determined by amino acid analysis.

Scyllatoxin is a 31 amino acid toxin originally isolated from the venom of the scorpion *Leiurus quinquestriatus hebraeus*, and is a member of the α-KTx 5.1 scorpion toxin family, having three disulfide bridges.[1] Scyllatoxin appears to be selective for apamin-sensitive small-conductance Ca^{2+}-activated K^+ channels (SK channels) with highest affinity towards $K_{ca}2.2$. Scyllatoxin has proved to clearly discriminate SK channel subtypes. HEK 293 cell currents stably expressing $hK_{ca}2.1$ (hSK1) and $K_{ca}2.2$ (hSK2) were blocked by scyllatoxin with IC_{50} of 80 nM and 287 pM, respectively.[2] The SK channel-mediated Afterhyperpolarising current (I_{AHP}) of dorsal vagal neurons, assumed to be $K_{ca}2.3$ (SK3)-mediated, was blocked by Scyllatoxin (20—30nM).[3] Scyllatoxin is thus a very useful compound to address the involvement of SK channel subtypes in functional responses.

Reagent

Supplied as a lyophilized powder of unbuffered protein.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

A stock solution of 1 µM can be obtained by adding 0.292 ml of any conventional buffer per µg of peptide.

Storage/Stability

Lyophilized powder and reconstituted solution should be stored at –20 °C or below. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Application of 200 nM scyllatoxin, recombinant, inhibited $K_{Ca}2.2$ channels expressed in *Xenopus* oocytes.

References

1. Chicchi, G.G., et al., Purification and characterization of a unique, potent inhibitor of apamin binding from Leiurus quinquestriatus hebraeus venom. *J. Biol. Chem.,* **263**, 10192-10197 (1988).
2. Strobaek, D., et al., Pharmacological characterization of small-conductance Ca^{2+}-activated K^+ channels stably expressed in HEK 293 cells. *Br. J. Pharmacol*. **129**, 991-999 (2000).
3. Pedarzani, P., et al., Molecular determinants of Ca^{2+}-dependent K^+ channel function in rat dorsal vagal neurons. *J. Physiol*. **527**, 283-290 (2000).

MCT,PHC 11/05-1