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ProductInformation

Kaliotoxin-1
recombinant, expressed in *E. coli*

Catalog Number **K3764**
Storage Temperature –20 °C

CAS RN: 150769-72-5

Synonym: 1KTX scorpion toxin

Product Description

Kaliotoxin-1, recombinant, is a peptide with the sequence GVEINVKCSG SPQCLKPCKD AGMRFGKCMN RKCHCTP, expressed in and extracted from *E. coli* and purified to homogeneity. The peptide concentration and identification were determined by amino acid analysis.

Kaliotoxin-1 was originally isolated, identified and synthesized as a 37 amino acid peptide.[1] Later the authors further analyzed the toxin, and came to the conclusion that the toxin is 38 amino acids, having an additional Lys at the C-terminal, but with biological activity very similar to the 37 amino acid toxin.[2] Kaliotoxin-1, recombinant is the highly purified 37 amino acid version. Its activity was compared to the 38 amino acid version, and found to have identical biological properties

Kaliotoxin-1 was originally isolated from the venom of the scorpion *Androctonus mauretanicus mauretanicus.* It belongs to the α-KTX-3.1 scorpion toxin family, having three disulfide bridges.[1,3] Kaliotoxin-1 is a potent inhibitor of large conductance Ca^{2+} -activated K^+-channels ($K_{Ca}1.1$), and blocks voltage-dependent K^+-channels, mainly $K_v1.1$, $K_v1.2$ and $K_v1.3$.

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

Dissolvie 1 µg in 0.24 ml of any conventional buffer for a stock solution of 1µM.

Storage/Stability

Lyophilized powder and reconstituted solution should be stored at ⁄20 °C or below. Repeated freezing and thawing, or 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 250 nM Kaliotoxin-1, recombinant, causes reversible inhibition of $K_v1.3$ channels expressed in *Xenopus* oocytes.

References

1. Crest, M., et al., Kaliotoxin, a novel peptidyl inhibitor of neuronal BK-type Ca^{2+}-activated K^+-channels characterized from Androctonus mauretanicus mauretanicus venom., *J. Biol. Chem.*, **267**, 1640-1647 (1992).
2. Romi, R., et al., Synthesis and characterization of kaliotoxin. Is the 26-32 sequence essential for potassium channel recognition? *J. Biol. Chem.*, **268,** 26302-26309 (1993).
3. Rodriguez de la Vega, R.C. and Possani, L.D., Current views on scorpion toxins specific for K^+-channels. *Toxicon*, 4**3**, 865-875 (2004).

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