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ProductInformation

Maurotoxin
recombinant, expressed in *E. coli*

Catalog Number **M 7444**

Synonym: MTX scorpion toxin

Product Description

Maurotoxin, recombinant, with the sequence VSCTGSKDCY APCRKQTGCP NAKCINKSCK CYGC, is expressed in and extracted from *E. coli* and purified to homogeneity. Maurotoxin, recombinant, is not amidated at the C-terminus, as is natural maurotoxin. 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.

Maurotoxin (MTX) is a 34 amino acid toxin originally isolated from the venom of the scorpion *Scorpio Maurus palmatus*, and is a member of the α-KTx6.2 scorpion toxin family, having four disulfide bridges.[1,2] It blocks voltage-gated potassium channels, K_V1.1/KCNA1, K_V1.2/KCNA2, and K_V1.3/KCNA3, and inhibits apamin-sensitive small conductance calcium-activated channels (SK channels).[3] Maurotoxin was recently shown to produce a high and specific block towards K_{Ca}3.1(IK_{ca}1, SK4) and K_V1.2 (KCNA2) with IC_{50} of 1nM and 0.1nM, respectively.[4]

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 1µM can be obtained by adding 0.277 ml of any conventional buffer per µg of protein.

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 20 nM maurotoxin, recombinant, blocked K_V1.2 channels expressed in *Xenopus* oocytes.

References

1. Carlier E., et al., Effect of maurotoxin, a four disulfide-bridged toxin from the chactoid scorpion *Scorpio maurus*, on *Shaker* K^+ channels. *J. Pept. Res*. **55**, 419-427 (2000).
2. 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).
3. Visan, V., Mapping of maurotoxin binding sites on hKv1.2, hKv1.3, and hIKCa1 channels. *Mol Pharmacol*., **66**, 1103-1112 (2004).
4. Castle. N.A., et al., Maurotoxin: A Potent Inhibitor of Intermediate Conductance Ca^{2+}-Activated Potassium Channels. *Mol Pharmacol.*, **63**, 409-418 (2003).

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