Product Datasheet

Guangxitoxin 1E

Product name: Guangxitoxin 1E	**Synonyms :** GxTx1E
Catalog # : 11GUA002	

Product description

Guangxitoxin-1E (GxTx-1E) was isolated from the venom of Chilobrachys jingzhao (Chinese earth tiger tarantula). **Guangxitoxin-1E** was shown to block **K_v2.1/KCNB1, K_v2.2/KCNB2 and K_v4.3/KCND3 channels** without significant effect on K_v1.2/KCNA2, K_v1.3/KCNA3, K_v1.5/KCNA5, K_v3.2/KCNC2, Ca_v1.2/CACNA1C, Ca_v2.2/CACNA1B, Na_v1.5/SCN5A, Na_v1.7/SCN9A or Na_v1.8/SCN10A channels. **Guangxitoxin-1E** inhibits K_v2.1 with an IC_{50} value of 1 nM and K_v2.2 with an IC_{50} value of 3 nM. Block of K_v4.3 occurs at 10-20 fold higher concentrations. **Guangxitoxin-1E** acts as a gating modifier since it shifts the voltage-dependence of K_v2.1 K^+ currents towards depolarized potentials. In pancreatic beta-cells, **Guangxitoxin-1E enhances glucose-stimulated insulin secretion** by broadening the cell action potential and enhancing calcium oscillations.

Product specifications

AA sequence: Glu-Gly-Glu-Cys^{4}-Gly-Gly-Phe-Trp-Trp-Lys-Cys^{11}-Gly-Ser-Gly-Lys-Pro-Ala-Cys^{18}-Cys^{19}-Pro-Lys-Tyr-Val-Cys^{24}-Ser-Pro-Lys-Trp-Gly-Leu-Cys^{31}-Asn-Phe-Pro-Met-Pro-OH
Disulfide bonds: Cys^{4}-Cys^{19}, Cys^{11}-Cys^{24} and Cys^{18}-Cys^{31}
Length (aa): 36
Formula: $C_{178}H_{248}N_{44}O_{45}S_7$
Appearance: White lyophilized solid
Molecular Weight: 3948.72 Da
CAS number:
Source: Synthetic
Counterion: TFA salts
Solubility: Water or saline buffer, 5 mg/mL maximum (recommendation)

Formulation

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).
Expiry date: One year
Use restrictions: For laboratory use only. Not for drug, household or other uses. Not for use in diagnostic or therapeutic procedures.

References

- Herrington J. (2009) Gating modifier peptides as probes of pancreatic beta-cell physiology. Toxicon.
- Zhuang GQ, et al. (2009) SNAP-25(1-180) enhances insulin secretion by blocking Kv2.1 channels in rat pancreatic islet beta-cells. Biochem Biophys Res Commun.
- Herrington J, et al. (2006) Blockers of the delayed-rectifier potassium current in pancreatic beta-cells enhance glucose-dependent insulin secretion. Diabetes.

For laboratory research use only

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