Product Datasheet

Apamin

Product name : Apamin	**Synonyms :**
Catalog # : 08APA001	

Product description

Apamin is a neurotoxin that was originally isolated from Apis mellifera. Apamin binds to and inhibits the **SK channels (small conductance Ca^{2+}-activated K^+ channels)** in the brain and spinal cord. **Apamin** inhibits three subtypes of **SK channels (K_{Ca}2.1, K_{Ca}2.2, and K_{Ca}2.3)** with different affinity. **Apamin** does not affect K_{Ca}3.1 channel activity. **Apamin** most likely acts as a pore blocker such as Scyllatoxin or Tamapin, although residues both inside and outside of the pore region of the SK channels participate in apamin binding. The SK channels are present in a wide range of excitable and non-excitable cells, including cells in the central nervous system, intestinal myocytes, endothelial cells, and hepatocytes.

Product specifications

AA sequence: Cys^1-Asn-Cys^3-Lys-Ala-Pro-Glu-Thr-Ala-Leu-Cys^{11}-Ala-Arg-Arg-Cys^{15}-Gln-Gln-His-NH_2
Disulfide bonds: Cys^1-Cys^{11} and Cys^3-Cys^{15}
Length (aa): 18
Formula: $C_{79}H_{131}N_{31}O_{24}S_4$
Appearance: White lyophilized solid
Molecular Weight: 2026.34 Da
CAS number: 24345-16-2
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.

Related products

- **Charybdotoxin - #11CHA001:** blocks K_{Ca}1.1, K_{Ca}3.1, K_v1.2, K_v1.3 and K_v1.6 channels
- **Maurotoxin - #08MAR001:** blocks SK1, SK2, SK3, SK4 (IK_{Ca}), K_v1.1, K_v1.2 and K_v1.3 channels
- **Leiurotoxin 1 - #10LEI001:** binds to the SK channels (small conductance Ca^{2+}-activated K^+ channels)
- **Tamapin - #10TAM001:** selective blocker of SK2 (K_{Ca}2.2) channels
- **Iberiotoxin - #12IBX001:** selective blocker of K_{Ca}1.1 channel

References

- Habermann E (1984). Apamin. *Pharmacol Ther*.
- Strong PN (1990). Potassium channel toxins. *Pharmacol Ther.*
- Castle NA, et al. (1989). Toxins in the characterization of potassium channels. *Trends Neurosci*.

For laboratory research use only

Smartox Biotechnology – 570 rue de la Chimie – Bâtiment NanoBio – 38400 Saint Martin d'Hères – FRANCE
Phone : +33 4 56 52 08 69 Fax : +33 4 56 52 08 68 contact@smartox-biotech.com