Product Datasheet

Tamapin

Product name : Tamapin	**Synonyms :**
Catalog # : 10TAM001	

Product description

Tamapin is a peptide toxin isolated from the venom of the Indian red scorpion Mesobuthus Tamulus. **Tamapin** is amidated at its C-terminal tyrosine residue. **Tamapin** binds to **small conductance Ca^{2+}-activated K^+ channels (SK channels)** with high affinity and inhibits SK channel-mediated currents in pyramidal neurons of the hippocampus as well as in cell lines expressing distinct SK channel subunits. Contrary to **Apamin** or **Leiurotoxin-1 (Scyllatoxin)**, **Tamapin** is an excellent toxin to discriminate among SK channel subtypes because it presents different affinities for **SK1 (42 nM), SK2 (24 pM) and SK3 (1.7 nM)** channels. This toxin is also the most potent SK2 channel blocker characterized so far (IC_{50} for SK2 channels = 24 pM).

Product specifications

AA sequence: Ala-Phe-Cys^3-Asn-Leu-Arg-Arg-Cys^8-Glu-Leu-Ser-Cys^{12}-Arg-Ser-Leu-Gly-Leu-Leu-Gly-Lys-Cys^{21}-Ile-Gly-Glu-Glu-Cys^{26}-Lys-Cys^{28}-Val-Pro-Tyr-NH_2
Disulfide bonds: Cys^3-Cys^{21}; Cys^8-Cys^{26}; Cys^{12}-Cys^{28}
Length (aa): 31
Formula: $C_{146}H_{237}N_{44}O_{41}S_6$
Appearance: White lyophilized solid
Molecular Weight: 3459.00 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.

Related products

- **Charybdotoxin - #11CHA001:** blocks $K_{Ca}1.1$, $K_{Ca}3.1$, $K_v1.2$, $K_v1.3$ and $K_v1.6$
- **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)
- **Iberiotoxin - #12IBX001:** selective blocker of $K_{Ca}1.1$
- **Apamin - #08APA001:** selective blocker of SK1, SK2 and SK3 channels

References

- Blank T., *et al.* (2004) Small conductance Ca2+-activated K+ channels as targets of CNS drug development. *Curr Drug Targets CNS Neurol Disord*.
- Pedarzani P *et al.* (2002) Tamapin, a venom peptide from the Indian red scorpion (Mesobuthus tamulus) that targets small conductance Ca^{2+}-activated K^+ channels and afterhyperpolarization currents in central neurons. *J. Biol Chem.*

For laboratory research use only

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