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PRODUCT INFORMATION



Apamin (trifluoroacetate salt)

Item No. 17082

CAS Registry No.: 24345-16-2

Formal Name: L-cysteinyl-L-asparaginyl-L-cysteinyl-L-lysyl-L-alanyl-L-prolyl-L- α -glutamyl-L-threonyl-L-alanyl-L-leucyl-L-cysteinyl-L-alanyl-L-arginyl-L-arginyl-L-cysteinyl-L-glutamyl-L-glutamyl-L-histidinamide, cyclic (1 $\rightarrow$ 11),(3 $\rightarrow$ 15)-bis(disulfide), trifluoroacetate salt

Synonym: Ro 23-6721

MF: $C_{79}H_{131}N_{31}O_{24}S_4 \cdot XCF_3COOH$

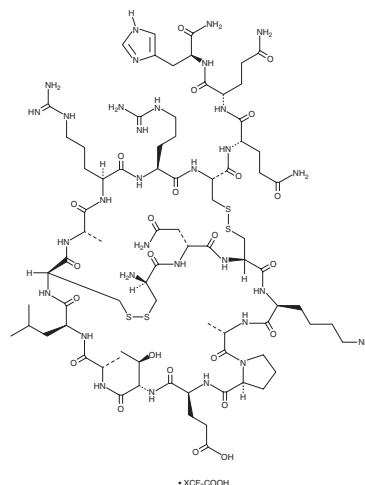
FW: 2,027.3

Purity: $\geq 95\%$

Supplied as: A solid

Storage: $-20^\circ C$

Stability: ≥ 2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Apamin (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the apamin (trifluoroacetate salt) in water. The solubility of apamin (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Apamin is an 18-amino acid peptide toxin that has been found in honey bee (*A. mellifera*) venom.^{1,5} It is an inhibitor of small conductance calcium-activated potassium ($K_{Ca2.2/SK2}$) channels ($IC_{50}s = 0.06-0.4$ nM).¹ It is selective for $K_{Ca2.2/SK2}$ channels over $K_{Ca2.1/SK1}$ and $K_{Ca2.3/SK3}$ channels ($IC_{50}s = 1-12$ and $1-13$ nM, respectively), as well as the intermediate-conductance calcium-activated potassium channel $K_{Ca3.1/SK4}$ at 1 μM but does inhibit voltage-gated potassium channel 1.3 ($K_{V1.3}$; $IC_{50} = 13$ nM).^{1,2,6} Apamin (50 $\mu g/kg$) reduces CD8⁺ cell infiltration into the CNS and the severity of experimental autoimmune encephalomyelitis (EAE), as well as increased peripheral blood levels of CD62L⁺, CD44L⁺, and CD44⁺ memory T cells in mice.⁷ It has commonly been used to determine the role of K_{Ca}/SK channels in the brain, vascular endothelium, and bladder.^{3-5,8}

References

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5. Gu, H., Han, S.M., and Park, K.-K. *Toxins (Basel)* **12**(3), 195 (2020).
6. Voos, P., Yazar, M., Lautenschläger, R., et al. *Eur. Biophys. J.* **46**(6), 517-523 (2017).
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WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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