PRODUCT INFORMATION

α-Conotoxin ImI (trifluoroacetate salt)

Item No. 34022

Formal Name: glycyl-L-cysteinyl-L-cysteinyl-L-seryl-L-α-aspartyl-L-prolyl-L-arginyl-L-cysteinyl-L-alanyl-L-tryptophyl-L-arginyl-L-cysteinamide, cyclic (2→8),(3→12)-*bis*(disulfide), trifluoroacetate salt

Synonyms: α-CTx ImI, GCCSDPRCAWRC

MF: $C_{52}H_{78}N_{20}O_{15}S_4 \bullet XCF_3COOH$

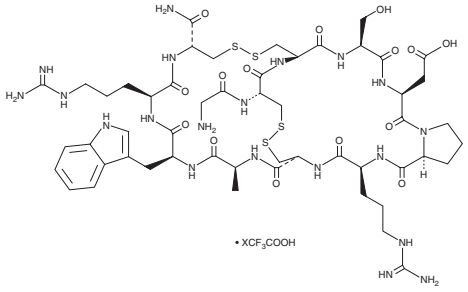
FW: 1,351.6

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

α-Conotoxin ImI (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the α-conotoxin ImI (trifluoroacetate salt) in water. We do not recommend storing the aqueous solution for more than one day.

Description

α-Conotoxin ImI is a conotoxin that has been found in *C. imperialis* and has receptor antagonist and anticancer activities.[1] It is a peptide antagonist of homomeric α7 nicotinic acetylcholine receptors (nAChRs; IC_{50} = 220 nM). α-Conotoxin ImI is selective for α7 nAChRs over α2β2, α3β2, α4β2, α2β4, α3β4, α4β4, and α1β1γδ subunit-containing nAChRs at 5 µM but does inhibit homomeric α9 nAChRs (IC_{50} = 1,800 nM). Administration of paclitaxel (Item No. 10461) in micelles containing α-conotoxin ImI decreases tumor growth in an MCF-7 mouse xenograft model.[2] Intracerebroventricular, but not intraperitoneal, administration of α-conotoxin ImI (20 nmol/animal) induces seizures in rats.[3]

References

1. Johnson, D.S., Martinez, J., Elgoyhen, A.B., *et al.* α-Conotoxin ImI exhibits subtype-specific nicotinic acetylcholine receptor blockade: Preferential inhibition of homomeric α7 and α9 receptors. *Mol. Pharmacol.* **48(2)**, 194-199 (1995).
2. Mei, D., Lin, Z., Fu, J., *et al.* The use of α-conotoxin ImI to actualize the targeted delivery of paclitaxel micelles to α7 nAChR-overexpressing breast cancer. *Biomaterials* **42**, 52-65 (2015).
3. McIntosh, J.M., Yoshikami, D., Mahe, E., *et al.* A nicotinic acetylcholine receptor ligand of unique specificity, α-conotoxin ImI. *J. Biol. Chem.* **269(24)**, 16733-16739 (1994).

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