# PRODUCT INFORMATION

## Mastoparan (trifluoroacetate salt)

*Item No. 20240*

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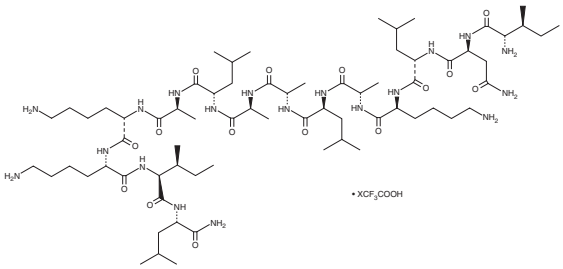
|---|---|
| **MF:** | $C_{70}H_{131}N_{19}O_{15} \bullet XCF_3COOH$ |
| **FW:** | 1,478.9 |
| **Purity:** | ≥95% |
| **UV/Vis.:** | $\lambda_{max}$: 203 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |



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

### Laboratory Procedures

Mastoparan (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the mastoparan (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Mastoparan (trifluoroacetate salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of mastoparan (trifluoroacetate salt) in these solvents is approximately 30 mg/ml.

Mastoparan (trifluoroacetate salt) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, mastoparan (trifluoroacetate salt) should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Mastoparan (trifluoroacetate salt) has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Mastoparan is a mast cell degranulating peptide originally isolated from Vespid wasp venom.[1] It promotes degranulation by increasing GTPase activity for $G_i$ and $G_o$ signaling independent of G protein-coupled receptor binding.[2,3] Mastoparan also binds calmodulin ($K_d$ = 0.3 nM) and inhibits the calmodulin-induced activation of phosphodiesterase ($IC_{50}$ = 0.02 µM).[4,5] *In vitro*, mastoparan was effective in killing leukemia, myeloma, and breast cancer cells ($IC_{50}$s = 8-9.2, 11, and 20-24 µM, respectively).[6] It worked synergistically with gemcitabine in a mouse model of mammary carcinoma.[6]

### References


1. Hirai, Y., Yashuhara, T., Yoshida, H., *et al. Chem. Pharm. Bull. (Tokyo)* **27(8)**, 1942-1944 (1979).
2. Higashijima, T., Uzu, S., Nakajima, T., *et al. J. Biol. Chem.* **263(14)**, 6491-6494 (1988).
3. Higashijima, T., Burnier, J., and Ross, E.M. *J. Biol. Chem.* **265(24)**, 14176-14186 (1990).
4. Malencik, D.A., and Anderson, S.R. *Biochem. Biophys. Res. Commun.* **114(1)**, 50-56 (1983).
5. Barnette, M.S., Daly, R., and Weiss, B. *Biochem. Pharmacol.* **32(19)**, 2929-2933 (1983).
6. Hilchie, A.L., Sharon, A.J., Haney, E.F., *et al. Biochim Biophys. Acta* **1858(12)**, 3195-3204 (2016).





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