

Product Data Sheet

Product Name: Mastoparan 7 (trifluoroacetate salt)

Cat. No.: GC91846

Chemical Properties

Cas. No. N/A

Formula $C_{67}H_{124}N_{18}O_{15} \cdot XCF_3COOH$ M.Wt 1421.8

Solubility Water: Soluble Storage $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure $H-Ile-Asn-Leu-Lys-Ala-Leu-Ala-Ala-Leu-Ala-$
 $Lys-Ala-Leu-Leu-NH_2$
 $\cdot XCF_3COOH$

Background

Mastoparan 7 is a G protein activator and derivative of the mast cell degranulating peptide mastoparan.^[1] It decreases the affinity of acetylcholine (ACh) to porcine brain muscarinic ACh receptors (mAChRs) when used at a concentration of $30 \mu M$ and induces GDP/GTP exchange by G_i in a concentration-dependent manner. Mastoparan 7 ($1 \mu M$) also induces activation of $G\alpha_o$ in, and increases dendritic spine density of, primary rat hippocampal neurons.^[2] It induces contractions in isolated perfused rat tail arteries ($EC_{50} = 44.1 \text{ nM}$).^[3] Immunization with a vaccine against cocaine in combination with mastoparan 7 as an adjuvant increases hapten-specific serum IgG levels and decreases cocaine-induced locomotion in mice.^[4]

References:

[1]. Higashijima, T., Burnier, J., and Ross, E.M. Regulation of G_i and G_o by mastoparan, related amphiphilic peptides, and hydrophobic amines. Mechanism and structural determinants of activity. J. Biol. Chem. 265(24):14176-14186 (1990).

[2]. Ramírez, V.T., Ramos-Fernández, E., and Inestrosa, N.C. The $G\alpha_o$ activator mastoparan-7 promotes dendritic spine formation in hippocampal neurons. Neural Plast. 4258171 (2016).

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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[3].Grześk, G., Malinowski, B., Grześk, E., et al.Direct regulation of vascular smooth muscle contraction by mastoparan-7Biomed. Rep.2(1)34-38(2014).

[4].St. John, A.L., Choi, H.W., Walker, Q.D., et al.Novel mucosal adjuvant, mastoparan-7, improves cocaine vaccine efficacyNPJ Vaccines5(1)12(2020).

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