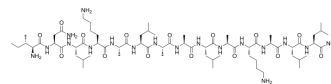


Mas7

Cat. No.:	HY-P0258
CAS No.:	145854-59-7
Molecular Formula:	C ₆₇ H ₁₂₄ N ₁₈ O ₁₅
Molecular Weight:	1421.81
Sequence:	Ile-Asn-Leu-Lys-Ala-Leu-Ala-Ala-Leu-Ala-Lys-Ala-Leu-Leu-NH ₂
Sequence Shortening:	INLKALAALAKALL-NH ₂
Target:	Others
Pathway:	Others
Storage:	Sealed storage, away from moisture
	Powder -80°C 2 years
	-20°C 1 year



* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 1 mg/mL (0.70 mM; ultrasonic and warming and adjust pH to 5 with HCl and heat to 50°C)
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BIOLOGICAL ACTIVITY

Description Mas7 (Mastoparan 7), a structural analogue of mastoparan, is an activator of heterotrimeric G_i proteins and its downstream effectors.

In Vitro Mas7 (Mastoparan 7) produces several biological effects in different cell types. The effect of Mas7 on endogenous mono-ADP-ribosyltransferase activity is in the micromolar range with a maximal activation of 205% over the basal. In pertussis treated plasma membranes, it is found that the effect of Mas7 on endogenous mono-ADP-ribosyltransferase is partially blocked, which suggests the involvement of G-proteins, such as G_i or G₀^[1]. Mas7 is a basic tetradecapeptide isolated from isp venom, which activates guanine nucleotide-binding regulatory proteins (G-proteins) and stimulates apoptosis. In smooth muscle cells, Mas7 leads to an increase in the perfusion pressure. Vascular contraction is induced by Mas7. The vasoconstriction triggered by mas-7 exhibited a slower increase compared to that simulated by phenylephrine or vasopressin^[2]. Exposure of hippocampal neurons to a low dose of Mas-7 increases dendritic spine density and spine head width in a time-dependent manner. Additionally, Mas-7 enhances postsynaptic density protein-95 (PSD-95) clustering in neurites and activates G_{αo} signaling, increasing the intracellular Ca²⁺ concentration^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay^[1] Hippocampal neurons cultured in round 35 mm coverslips at a density of 160,000 cells/coverslip are transfected with EGFP at 11 DIV. Then, at 14 DIV the neurons are placed in the imaging chamber in an isotonic solution. The EGFP-positive neurons are imaged with microscope every 5 min for 45 min after the treatment with 1 μM Mas-7. The images are processed and

analyzed using ImageJ software^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Bavec A, et al. Novel features of amphiphilic peptide Mas7 in signalling via heterotrimeric G-proteins. *J Pept Sci.* 2004 Nov;10(11):691-9.
 - [2]. Grzešek G, et al. Direct regulation of vascular smooth muscle contraction by mastoparan-7. *Biomed Rep.* 2014 Jan;2(1):34-38.
 - [3]. Ramírez VT, et al. The Gαo Activator Mastoparan-7 Promotes Dendritic Spine Formation in Hippocampal Neurons. *Neural Plast.* 2016;2016:4258171.
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Caution: Product has not been fully validated for medical applications. For research use only.

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