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-NH2
Sequence Shortening:	INLKALAALAKALL-NH2
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)

BIOLOGICAL ACTIVITY

Description	Mas7 (Mastoparan 7), a structural analogue of mastoparan, is an activator of heterotrimeric Gi 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 Gi 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 Gαo signaling, increasing the intracellular Ca^{2+} 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]. Grześk 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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