Maurocalcine

Cat. No.:	HY-P5114
CAS No.:	269745-22-4
Molecular Formula:	$C_{156}H_{270}N_{56}O_{46}S_6$
Molecular Weight:	3858.55
Sequence:	Gly-Asp-Cys-Leu-Pro-His-Leu-Lys-Leu-Cys-Lys-Glu-Asn-Lys-Asp-Cys-Cys-Ser-Lys-Lys-Cys-Lys-Arg-Arg-Gly-Thr-Asn-Ile-Glu-Lys-Arg-Cys-Arg (Disulfide bridge:Cys3-Cys17;Cys10-Cys21;Cys16-Cys32)
Sequence Shortening:	GDCLPHLKLCKENKDCCSKKCKRRGTNIEKRCR (Disulfide bridge:Cys3-Cys17;Cys10-Cys21;Cys16-Cys32)
Target:	Calcium Channel
Pathway:	Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description

Maurocalcine is an agonist of ryanodine receptor (RyR) channel types 1, 2 and 3 with cellular permeability. Maurocalcine induces [^{3}H]ryanodine binding on RyR1 with an EC_{50} value of 2558 nM. Maurocalcine exhibits a apparent affinity of 14 nM for RyR2. Maurocalcine can be applied to in vivo cell tracking or other cell imaging techniques[1][2][3].

In Vitro

Maurocalcine (100 nM, 24 h) increases the sensitivity of RyR2 to activating $[Ca^{2+}]_i$ and decrease its sensitivity to inhibiting $[Ca^{2+}]_i$[1].

Maurocalcine (5 μM, 4 h/24 h) is absolutely no sign of significant cell toxicity for HEK293[3].

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

Cell Viability Assay[3]

Cell Line:	HEK293
Concentration:	5, 10 μM
Incubation Time:	4, 24 h
Result:	Had absolutely no sign of significant cell toxicity for concentrations up to 5 μM whether the incubation time lasted 4 h or 24 h. Exhibited only 8.0% cell toxicity for concentration of 10 μM and a 24 h incubation time.

REFERENCES

[1]. De Waard S, et al. Maurocalcin and its analog MCaE12A facilitate Ca2+ mobilization in cardiomyocytes. Biochem J. 2020 Oct 30;477(20):3985-3999.

[2]. Altafaj X, et al. Maurocalcine interacts with the cardiac ryanodine receptor without inducing channel modification. Biochem J. 2007 Sep 1;406(2):309-15.

[3]. Boisseau S, et al. Cell penetration properties of maurocalcine, a natural venom peptide active on the intracellular ryanodine receptor. Biochim Biophys Acta. 2006

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