

Melittin free acid

Cat. No.:	HY-P3906
CAS No.:	123168-46-7
Molecular Formula:	C ₁₃₁ H ₂₂₈ N ₃₈ O ₃₂
Molecular Weight:	2847.45
Sequence Shortening:	GIGAVLKVLTTGLPALISWIKRKRQQ
Target:	Fungal; Apoptosis; Phospholipase; Reactive Oxygen Species
Pathway:	Anti-infection; Apoptosis; Metabolic Enzyme/Protease; Immunology/Inflammation; NF-κB
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

BIOLOGICAL ACTIVITY

Description	Melittin free acid is a basic 26-amino-acid polypeptide, the major active ingredient of honeybee venom. Melittin free acid is an activator of phospholipase A2 (PLA2). Melittin free acid has broad-spectrum antifungal activity with MIC values of 0.4-60 μM. Melittin free acid hinders fungal growth by inducing cell apoptosis, repressing (1,3)-β-D-glucan synthase and participating in other pathways ^{[1][2]} .
In Vitro	Melittin free acid stimulates the biosynthesis of prostaglandins by mouse transformed fibroblasts (MC5-5), human fibroblasts (D550), rabbit aorta endothelial cells (CLO), rat lung type II alveolar pneumocytes (L-2) and rabbit smooth muscle cells (R-I) ^[1] . Melittin free acid stimulates the release of arachidonic acid from the cellular phospholipids of MC5-5 cells ^[1] . Melittin free acid induces the accumulation of ROS in germinating conidia of <i>A. flavus</i> ^[2] . Melittin free acid inhibits <i>B. cinerea</i> MUCL 30158 and CECT 2100 strains with IC ₅₀ values of 3.1 and 24 μM, respectively ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Melittin (intraperitoneal inoculation) increases 13,14-dihydro-15-keto-PGE2 levels in peripheral blood of mice ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

- [1]. Hassid A, Levine L. Stimulation of phospholipase activity and prostaglandin biosynthesis by melittin in cell culture and in vivo. *Res Commun Chem Pathol Pharmacol*. 1977.
- [2]. Memariani H, Memariani M. Anti-fungal properties and mechanisms of melittin. *Appl Microbiol Biotechnol*. 2020 Aug;104(15):6513-6526.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA