

Product Data Sheet

Product Name: Nisin Z(≥ 900 IU/mg)

Cat. No.: GD19056

Chemical Properties

Cas. No. 137061-46-2

Formula $C_{141}H_{229}N_{41}O_{38}S_7$ M.Wt 3331.05

Solubility H_2O : 10 mg/mL (3.00 mM; Need ultrasonic) Storage 2-8°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°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

Nisin Z

Background

Nisin Z is an antimicrobial and anti-inflammatory peptide. Nisin Z is effective against Gram-positive bacteria and fungi, such as *C. albicans*.

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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Nisin Z (10 µg/mL, 24 h) increases gingival fibroblasts detachment and differentiation [2].

Nisin Z (25-75 µg/mL, 24 h) decreases *C. albicans* adhesion to the gingival cells [2].

Nisin Z (500 and 1000 µg/mL, 24 h) inhibits germ tube formation by *C. albicans* [3].

Nisin Z (100 µg/mL, 12 h) reduces the production of LPS-induced pro-inflammatory cytokines (i.e., IL-6, TNF- α , IL-1 β) in MCF10A cells [4].

Nisin Z (10-100 µg/mL, 12 h) inhibits the activation of the ERK1/2 and p38 MAPK signaling pathway in LPS-induced MCF10A cells [4].

Nisin Z (1, 5, and 10 mg/kg, i.p.) prevents the pathological damage in mastitis mouse mode caused by LPS [4].

[1]. Webber JL, et al. Incorporation and antimicrobial activity of nisin Z within carrageenan/chitosan multilayers. *Sci Rep*. 2021 Jan 18;11(1):1690.

[2]. Akerey B, et al. In vitro efficacy of nisin Z against *Candida albicans* adhesion and transition following contact with normal human gingival cells. *J Appl Microbiol*. 2009 Oct;107(4):1298-307.

[3]. Le Lay C, et al. Nisin Z inhibits the growth of *Candida albicans* and its transition from blastospore to hyphal form. *J Appl Microbiol*. 2008 Nov;105(5):1630-9.

[4]. Huang F, et al. Nisin Z attenuates lipopolysaccharide-induced mastitis by inhibiting the ERK1/2 and p38 mitogen-activated protein kinase signaling pathways. *J Dairy Sci*. 2022 Apr;105(4):3530-3543.

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