

Ceramides Mixture

Cat. No.:	HY-113679		
CAS No.:	100403-19-8		
Target:	Telomerase		
Pathway:	Cell Cycle/DNA Damage		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month

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SOLVENT & SOLUBILITY

In Vitro	DMSO : 100 mg/mL (Need ultrasonic) H ₂ O : 33.33 mg/mL (Need ultrasonic) Methanol : 25 mg/mL (Need ultrasonic)
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: PBS Solubility: 50 mg/mL (Infinity mM); Clear solution; Need ultrasonic Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (Infinity mM); Clear solution

BIOLOGICAL ACTIVITY

Description	Ceramides Mixture is an endogenous ceramide and consists of hydroxy and non-hydroxy fatty acid-containing ceramides. Ceramides Mixture is a main lipid component of the permeability barrier in epidermis. Ceramides Mixture is involved in the regulation of growth inhibition, cell cycle arrest, and modulation of telomerase activity ^{[1][2]} .
In Vitro	Endogenous Ceramides (generated in response to bacterial sphingomyelinase overexpression or daunorubicin treatment) inhibits mRNA synthesis of telomerase reverse transcriptase and telomerase activity via inactivation of c-Myc transcription factor in the A549 human lung adenocarcinoma cell line ^[1] . ?The sustained generation of long chain endogenous ceramide requires the biochemical recycling of the sphingosine backbone of C6-ceramide, which involves deacylation and reacylation of ceramide for the generation of endogenous long chain ceramide (mainly C16:0- and C24:1-Ceramides), most likely by CoA-dependent ceramide synthase, which is inhibited by fumonisin B1. In A549 cells the generation of long chain endogenous ceramide mediates the effects of exogenous C6-ceramide on growth inhibition, cell cycle arrest, and the modulation of telomerase activity ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- EMBO Mol Med. 2023 Feb 27;e17450.

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REFERENCES

- [1]. Ogretmen B, et al. Biochemical mechanisms of the generation of endogenous long chain ceramide in response to exogenous short chain ceramide in the A549 human lung adenocarcinoma cell line. Role for endogenous ceramide in mediating the action of exogenous ceramide. J Biol Chem. 2002 Apr 12;277(15):12960-9.
- [2]. Macheleidt O, et al. Deficiency of epidermal protein-bound omega-hydroxyceramides in atopic dermatitis. J Invest Dermatol. 2002 Jul;119(1):166-73.
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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