Surfactin C1

Cat. No.: HY-W588250

CAS No.: 24730-31-2

Molecular Formula: $C_{53}H_{93}N_7O_{13}$

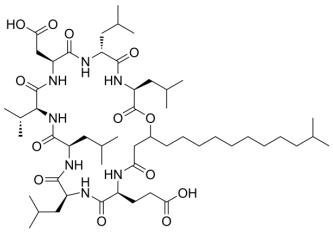
Molecular Weight: 1036.34

Target: Integrin

Pathway: Cytoskeleton

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (96.49 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	0.9649 mL	4.8247 mL	9.6493 mL
	5 mM	0.1930 mL	0.9649 mL	1.9299 mL
	10 mM	0.0965 mL	0.4825 mL	0.9649 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (2.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (2.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (2.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Surfactin C1 is an amphiphilic biosurfactants. Surfactin C1 inhibits leukemic cell (HL-60) adhesion to human umbilical vein endothelial cells (HUVEC). Surfactin C1 inhibits adhesion melecules expression, such as ICAM-1 and VCAM-1[1].

In Vitro

Surfactin C1 (0.3-10 μg/mL; 24 h) inhibits the adhesion of leukemic cell and monocyte cell to HUVEC, stimulated by LPS[1].
Surfactin C1 (3 μg/mL; 1 h) inhibits LPS-induced expression of adhesion molecules[1].
Surfactin C1 (3 μg/mL; 1 h) inhibits the interaction of lipid A/LBP[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[1]	
Cell Line:	HUVEC
Concentration:	0.3 μg/mL, 1 μg/mL, 3 μg/mL, 10 μg/mL
Incubation Time:	2 hr and another 4 hr with 1 μg/mL LPS
Result:	Decreased the protein level of ICAM-1 and VCAM-1. Completely inhibited the expression at 3μg/mL with no effect on E-selectin.

Cell Viability Assay[1]	
Cell Line:	HL-60, THP-1, Jurkat cells
Concentration:	0.3 μg/mL, 1 μg/mL, 3 μg/mL, 10 μg/mL, and 100 μg/mL
Incubation Time:	24 hr accompanied with LPS for viability assay; 2 hr and another 4 hr with LPS for adhesion assay
Result:	Didn't inhibit cell viability. Inhibited cell adhesion to HUVEC with IC50s of 1.10 μg/mL, 1.45 μg/mL, and 1.43 μg/mL, respectively.

REFERENCES

[1]. Takahashi T, et al. Inhibition of lipopolysaccharide activity by a bacterial cyclic lipopeptide surfactin. J Antibiot (Tokyo). 2006 Jan;59(1):35-43.

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