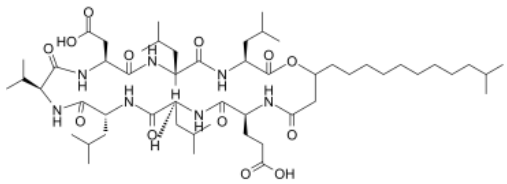
Product Data Sheet

Product Name: Surfactin C1
Cat. No.: GC39448

Chemical Properties

Cas. No.	24730-31-2		
SMILES	OC(C[C@H](N1)C(N[C@](C(N[C@H](C(OC(CC(N[C@@H](CCC(O)=O)C(N[C@](CC(C)C)([H])C(N[C@H](CC(C)C)C(N[C@@H](C(C)C)C1=O)=O)=O)=O)=O)CCCCCCCCCC(C)C)=O)CC(C)C)=O)([H])CC(C)C)=O)=O		
Formula	$C_{53}H_{93}N_7O_{13}$	M.Wt	1036.34
Solubility	DMSO: 50 mg/mL (48.25 mM); Water: 31.25 mg/mL (30.15 mM)	Storage	Store at -20°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			



Protocol

Cell experiment [1]:

Product Data Sheet

Cell lines	Human umbilical vein endothelial cells (HUVECs) and HL-60 cells
Preparation Method	HUVECs was cultured in a coated culture dish with type I collagen as the culture medium, and was cultivated in MCDB-131 medium supplemented with 10% heat-inactivated bovine fetal serum (FBS) and 10ng/ml basic fibroblast growth factor (bFGF). 4×10^4 cells per well of HUVECs were seeded in a 48-well collagen-coated plate and cultured overnight at 37°C and 5% CO_2. The cells were pre-incubated with several concentrations of Surfactin C1 (0, 0.3, 1, 3, 10μg/ml) for 2 hours, and then treated with the stimulants (1μg/ml lipopolysaccharide, 1μg/ml lipid A, 10ng/ml tumor necrosis factor-α or 10ng/ml interleukin-1β) for 4 hours. After removing the culture medium, the wells were washed twice with PBS. Next, leukemia cells (HL-60) were added to the treated HUVEC monolayer at a concentration of 6×10^4 cells per well. After 1 hour, the non-adherent leukemia cells were removed by washing 3 times with PBS. Then, the number of adherent cells was counted in 1 microscopic field.
Reaction Conditions	0, 0.3, 1, 3, 10μg/ml; 2h
Applications	Surfactin C1 decreased HL-60 cell-HUVEC adhesion caused by lipopolysaccharide, without showing any cytotoxicity.

References:

[1] Takahashi T, Ohno O, Ikeda Y, et al. Inhibition of lipopolysaccharide activity by a bacterial cyclic lipopeptide surfactin[J]. The Journal of Antibiotics, 2006, 59(1): 35-43.

Background

Surfactin C1 is a highly effective and biologically active surfactant that inhibits HL-60 cell-human umbilical vein endothelial cells (HUVECs) adhesion triggered by lipopolysaccharide (LPS)[1]. Surfactin C1 can suppress LPS-induced expression of ICAM-1 and VCAM-1 in HUVECs[1]. Surfactin

Product Data Sheet

C1 protects wheat from the wheat blight pathogen and activates salicylic acid and jasmonic acid-dependent defense responses [2].

References:

[1] Takahashi T, Ohno O, Ikeda Y, et al. Inhibition of lipopolysaccharide activity by a bacterial cyclic lipopeptide surfactin[J]. The Journal of Antibiotics, 2006, 59(1): 35-43.
[2] Le Mire G, Siah A, Brisset M N, et al. Surfactin protects wheat against Zymoseptoria tritici and activates both salicylic acid-and jasmonic acid-dependent defense responses[J]. Agriculture, 2018, 8(1): 11.

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