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FSL-1 TFA

Cat. No.: HY-P2036A

Molecular Formula: $C_{84}H_{140}N_{14}O_{18}S.xC_2HF_3O_2$

Sequence Shortening: S-(2, 3-Bispalmitoyloxypropyl)-CGDPKHPKSF

Target: Toll-like Receptor (TLR); Antibiotic; HSV; MMP

Pathway: Immunology/Inflammation; Anti-infection; Metabolic Enzyme/Protease

Storage: Sealed storage, away from moisture

Powder -80°C 2 years

-20°C 1 year

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)

S-(2, 3-Bispalmitoyloxypropyl)-CGDPKHPKSF (TFA salt)

SOLVENT & SOLUBILITY

In Vitro	H_2O : 50 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description	FSL-1 TFA, a bacterial-derived toll-like receptor 2/6 (TLR2/6) agonist, enhances resistance to experimental HSV-2 infection[1]. FSL-1 TFA induces MMP-9 production through TLR2 and NF-κB/AP-1 signaling pathways in monocytic THP-1 cells[2].

IC_{50} & Target				
	TLR2	HSV-2	TLR6	MMP-9

In Vitro

FSL-1 TFA significantly reduces HSV-2 replication in human vaginal epithelial cells (EC)[1].

FSL-1 TFA induces significant resistance to experimental genital HSV-2 infection through elaboration of a specific cytokine response profile[1].

FSL-1 TFA (50 ng/mL, 24 hours) induces MMP-9 expression at both mRNA and protein levels in human monocytic THP-1 cells [2].

FSL-1 TFA activates the MAP kinase/NF-κB signaling pathway[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[1]

Cell Line:	V11I, V12I or V19I immortalized human vaginal EC
Concentration:	6 μg or 0.1 μg
Incubation Time:	Added at 24, 6 or just prior to HSV-2 inoculation (10^4pfu/well)
Result:	The 6 μg does produced significant reductions when delivered at 24 or 6 h prior to HSV-2 inoculation. The 0.1 μg dose produced reduced HSV-2 replication at 24 or 6 h prior to viral challenge.

In Vivo

FSL-1 TFA application significantly protectes against genital HSV-2 challenge in mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Female Swiss-Webster mice (weighing 20-25 g)[1]
Dosage:	2 or 6 μg
Administration:	Delivered vaginally using a positive displacement pipet, prior to or following viral challenge as specified for each experiment.
Result:	The 2 μg does delivered 6 h prior to HSV-2 challenge increased the ID50 (260 pfu) and LD50 (660 pfu) by 10-fold compared to DPBS vehicle control. The single 6 μg dose produced significantly improved outcomes compared to DPBS vehicle application.

CUSTOMER VALIDATION

- Food Res Int. 10 October 2022, 112029.
- Int J Med Sci. 2022 Feb.

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REFERENCES

[1]. Cathryn J Kurkjian,et al. The Toll-Like Receptor 2/6 Agonist, FSL-1 Lipopeptide, Therapeutically Mitigates Acute Radiation Syndrome. Sci Rep. 2017 Dec 11;7(1):17355.

[2]. William A Rose 2nd, et al. FSL-1, a bacterial-derived toll-like receptor 2/6 agonist, enhances resistance to experimental HSV-2 infection. Virol J. 2009 Nov 10;6:195.

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