PRODUCT INFORMATION

FSL-1 (trifluoroacetate salt)

Item No. 24220

Formal Name: S-[2,3-*bis*[(1-oxohexadecyl)oxy] propyl]-L-cysteinylglycyl-L-α-aspartyl-L-prolyl-L-lysyl-L-histidyl-L-prolyl-L-lysyl-L-seryl-L-phenylalanine, trifluoroacetate salt

MF: $C_{84}H_{140}N_{14}O_{18}S \bullet XCF_3COOH$

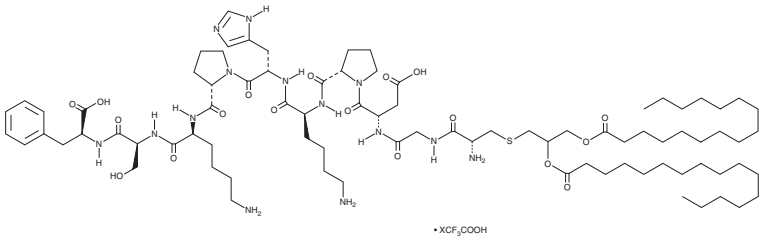
FW: 1,666.2

Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

FSL-1 (trifluoroacetate salt) is supplied as a solid. A stock solution may be made by dissolving the FSL-1 (trifluoroacetate salt) in water. The solubility of FSL-1 (trifluoroacetate salt) in water is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

FSL-1 is a synthetic lipopeptide agonist of toll-like receptor 2 (TLR2) and TLR6 heterodimers (TLR2/TLR6).[1,2] In HEK293 cells transfected with human TLR2 and TLR6 but not TLR6 alone, FSL-1 increases NF-κB activity by 4- and 8-fold when used at concentrations of 0.1 and 1 nM, respectively.[1] It induces the expression of the cytokines CCL20, IL-8, IL-1β, and TNF-α in human monocytic THP-1 cells and, to a lesser extent, in TLR10 knockdown cells when used at a concentration of 100 ng/ml.[3] FSL-1 (0.5-50 µg/ml), in combination with IFN-γ, dose-dependently increases the percentage of DM13 and VMM1 melanoma cells expressing the chemokine CXCL10 with a maximal increase of approximately 50%.[4] In rats, FSL-1 (100 µg/kg, i.p.) induces fever and increases plasma levels of IL-6 and TNF-α by greater than 90-fold.[5] FSL-1 (10-1,000 µg/kg, i.p.) also dose-dependently reduces home cage locomotor activity and both food and water consumption with maximal reductions of ten grams per 12 hours.

References

1. Okusawa, T., Fujita, M., Nakamura, J., *et al.* Relationship between structures and biological activities of mycoplasmal diacylated lipopeptides and their recognition by toll-like receptors 2 and 6. *Infect. Immun.* **72(3)**, 1657-1665 (2004).
2. Farhat, K., Riekenberg, S., Heine, H., *et al.* Heterodimerization of TLR2 with TLR1 or TLR6 expands the ligand spectrum but does not lead to differential signaling. *J. Leukoc. Biol.* **83(3)**, 692-701 (2008).
3. Le, H.V. and Kim, J.Y. Stable Toll-Like Receptor 10 Knockdown in THP-1 Cells Reduces TLR-Ligand-Induced Proinflammatory Cytokine Expression. *Int. J. Mol. Sci.* **17(6)**, E859 (2016).
4. Mauldin, I.S., Wang, E., Deacon, D.H., *et al.* TLR2/6 agonists and interferon-gamma induce human melanoma cells to produce CXCL10. *Int. J. Cancer* **137(6)**, 1386-1396 (2015).
5. Hübschle, T., Mütze, J., Mühlradt, P.F., *et al.* Pyrexia, anorexia, adipsia, and depressed motor activity in rats during systemic inflammation induced by the Toll-like receptors-2 and -6 agonists MALP-2 and FSL-1. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* **290(1)**, R180-R187 (2006).

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