

# PRODUCT INFORMATION



## Pam<sub>3</sub>CSK<sub>4</sub> (trifluoroacetate salt) Item No. 24126

**Formal Name:** S-[2,3-bis[(1-oxohexadecyl)oxy]propyl]-N-(1-oxohexadecyl)-L-cysteinyl-L-seryl-L-lysyl-L-lysyl-L-lysyl-L-lysine, trifluoroacetate salt

**Synonym:** Pam<sub>3</sub>Cys-Ser-(Lys)<sub>4</sub>

**MF:** C<sub>81</sub>H<sub>156</sub>N<sub>10</sub>O<sub>13</sub>S • XCF<sub>3</sub>COOH

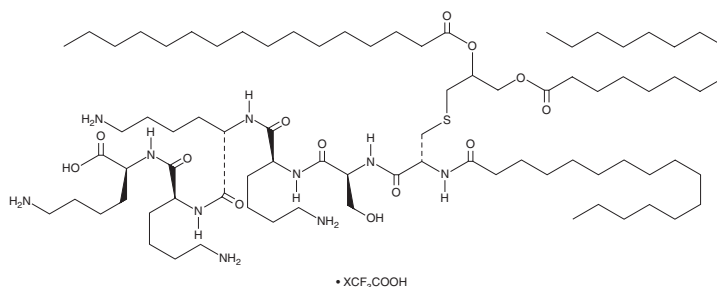
**FW:** 1,510.2

**Purity:** ≥95%

**Supplied as:** A lyophilized powder

**Storage:** -20°C

**Stability:** ≥4 years



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

### Laboratory Procedures

Pam<sub>3</sub>CSK<sub>4</sub> (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the Pam<sub>3</sub>CSK<sub>4</sub> (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. Pam<sub>3</sub>CSK<sub>4</sub> (trifluoroacetate salt) is soluble in the organic solvent formic acid at a concentration of approximately 1 mg/ml.

### Description

Pam<sub>3</sub>CSK<sub>4</sub> is a synthetic bacterial lipopeptide that binds to and acts as an agonist at toll-like receptor 2 (TLR2).<sup>1</sup> It induces proliferation of isolated mouse spleen cells and activates lymphocytes at a concentration of 50 µg/ml.<sup>2</sup> Pam<sub>3</sub>CSK<sub>4</sub> is a potent immune adjuvant in mice, enhancing the response to antigen, as measured by IgM and IgG levels, when used at a dose of 200 µg/animal. It inhibits Th1 and Th2 responses, suppresses eosinophil infiltration, and induces CD4<sup>+</sup> T cell apoptosis in a mouse model of allergic conjunctivitis.<sup>3</sup> Pam<sub>3</sub>CSK<sub>4</sub> (50 µg) decreases lesion size and parasite burden in genetically-resistant and -susceptible mice when administered with *L. major* to induce leishmaniasis.<sup>4</sup> It also enhances Th1 responses and stimulates IL-17 production in the early phase of infection.

### References

1. Vasselon, T., Detmers, P.A., Charron, D., *et al.* TLR2 recognizes a bacterial lipopeptide through direct binding. *J. Immunol.* **173**(12), 7401-7405 (2004).
2. Reitermann, A., Metzger, J., Wiesmüller, K.H., *et al.* Lipopeptide derivatives of bacterial lipoprotein constitute potent immune adjuvants combined with or covalently coupled to antigen or hapten. *Biol. Chem. Hoppe Seyler* **370**(4), 343-352 (1989).
3. Fukushima, A., Yamaguchi, T., Ishida, W., *et al.* TLR2 agonist ameliorates murine experimental allergic conjunctivitis by inducing CD4 positive T-cell apoptosis rather than by affecting the Th1/Th2 balance. *Biochem. Biophys. Res. Commun.* **339**(4), 1048-1055 (2006).
4. Huang, L., Hinchman, M., and Mendez, S. Coinjection with TLR2 agonist Pam3CSK4 reduces the pathology of leishmanization in mice. *PLoS Negl. Trop. Dis.* **9**(3), e0003546 (2015).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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