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## DATASHEET

Pam3CSK4

### Product overview

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Name</b>                   | Pam3CSK4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Cat No</b>                 | HB3428                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Biological description</b> | Synthetic lipopeptide that mimics bacterial lipoprotein. Acts as an agonist of the Toll-like receptor TLR1/TLR2 complex to potentially activate NF- $\kappa$ B. Activates monocytes and macrophages and induces cytokine production (e.g. TNF- $\alpha$ and IL-6 in macrophages). Also upregulates proinflammatory and T <sub>H</sub> 1 cytokine genes and promotes differentiation of naive CD4 <sup>+</sup> T cells into T <sub>H</sub> 17 cells. Additionally acts as an effective immune adjuvant. |
| <b>Alternative names</b>      | Pam3CysSerLys4, Pam3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Biological action</b>      | Agonist                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Purity</b>                 | >95%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>            | TLR1/TLR2 agonist and potent NF- $\kappa$ B activator. Induces cytokine production.                                                                                                                                                                                                                                                                                                                                                                                                                    |

### Solubility & Handling

|                             |                                                                                                                                                                                                        |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storage instructions</b> | -20 °C                                                                                                                                                                                                 |
| <b>Solubility overview</b>  | Soluble in water (1 mg/ml)                                                                                                                                                                             |
| <b>Storage of solutions</b> | Prepare and use solutions on the same day if possible. Store solutions at -20 °C for up to one month if storage is required. Equilibrate to RT and ensure the solution is precipitate free before use. |
| <b>Shipping Conditions</b>  | Stable for <b>ambient temperature</b> shipping. Follow storage instructions on receipt.                                                                                                                |
| <b>Important</b>            | This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use                                                                           |

### Chemical Data

|                              |                                                                                   |
|------------------------------|-----------------------------------------------------------------------------------|
| <b>Molecular Weight</b>      | 1510.24                                                                           |
| <b>Molecular Formula</b>     | C <sub>81</sub> H <sub>156</sub> N <sub>10</sub> O <sub>13</sub> S                |
| <b>Sequence (one letter)</b> | CSKKKK                                                                            |
| <b>Modifications</b>         | (Modifications: Cys-1 = S-[2,3-Bis(palmitoyloxy)-(2-R/S)-propyl]-N-palmitoyl]-Cys |
| <b>CAS Number</b>            | 112208-00-1                                                                       |
| <b>PubChem identifier</b>    | 130704                                                                            |
| <b>InChiKey</b>              | OEDPHAKKZGDBEV-GFPBKZJXSA-N                                                       |
| <b>Appearance</b>            | White solid                                                                       |

### References

**The synthetic bacterial lipopeptide Pam3CSK4 modulates respiratory syncytial virus infection independent of TLR activation.**

Nguyen DT et al (2010) PLoS pathogens 6

**PubMedID** [20808895](#)

**Detection of the Lipopeptide Pam3CSK4 Using a Hybridized Toll-like Receptor Electrochemical Sensor.**

She Z et al (2017) Analytical chemistry 89

**PubMedID** [28374588](#)

**Toll-like receptor 2 agonist Pam3CSK4 enhances the induction of antigen-specific tolerance via the sublingual route.**

Lombardi V et al (2008) Clinical and experimental allergy : journal of the British Society for Allergy and Clinical Immunology 38

**PubMedID** [18644025](#)

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