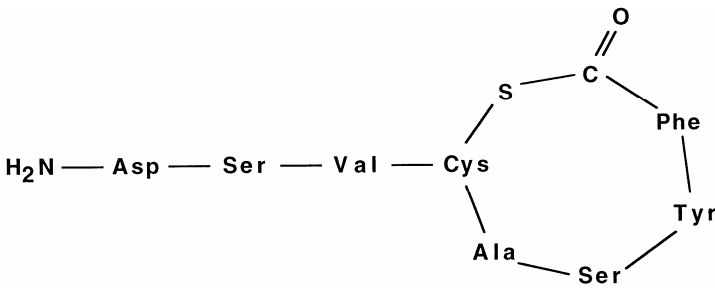


Product Information

S. epidermidis Pheromone Peptide

For Research Purposes only. Not for use in Humans



Product	MP-010
Chemical name	DSVCASYF (thioester between cysteine and C-terminus)
Synonyms	Aspartyl-seryl-valyl-cyclo[cysteinyl-ananyl-seryl-tyrosyl-phenylalanyl], cyclic thiolactone peptide pheromone <i>Staphylococcus epidermidis</i> autoinducer peptide (AIP), AIP-Se-1
MW / Formula	873 / C ₃₉ H ₅₂ N ₈ O ₁₃ S
Vial content	1 mg
Description	 <p>The production of surface proteins and exoproteins in Staphylococci is controlled by the agr quorum-sensing system. In <i>Staphylococcus aureus</i>, these proteins include virulence factors. The extracellular signals are diverse thiolactone-containing pheromone peptides dependent on staphylococcal strains.</p> <p>Chemical synthesis of a thiolactone-containing staphylococcal pheromone was first performed using the <i>S. epidermidis</i> pheromone amino acid sequence [1]. This substance had biological, i.e. autoinducing activity and demonstrated the thiolactone nature of staphylococcal pheromones [4].</p> <p>Effective quorum-sensing blockers that suppress the expression of virulence factors in <i>S. aureus</i> can be designed based on the Staphylococci pheromones.</p>
Packaging Reconstitution Storage	The <i>S. epidermidis</i> Pheromone Peptide is provided as a lyophilised, colourless powder without any additives. It can be shipped at room temperature and should be stored at 4°C. The <i>S. epidermidis</i> Pheromone Peptide can be reconstituted in endotoxin-free water (1 mg/ml stock solution). Through the use of either a homogeniser or sonicator, a homogenous solution can be prepared. If you use an ultrasonic bath, take care of the vial labels. For further dilutions water, saline, buffer or media can be used. After reconstitution, the solution should be aliquoted and stored at or below -20°C.
Handling	Good laboratory technique should be employed in the safe handling of any lipopeptide product. If you are not fully trained or are unaware of the hazards involved, do not use this compound! Caution: Do not take internally! Avoid contact by all modes of exposure. Wear appropriate laboratory attire including a lab coat, gloves, mask and safety glasses. Do not mouth pipette, inhale, ingest or allow coming into contact with open wounds. Wash thoroughly any area of the body which comes into contact with the product. Avoid accidental autoinoculation by exercising extreme care when handling in conjunction with any injection device. This product is intended for research purposes by qualified personnel only. It is not intended for use in humans or as a diagnostic agent. EMC microcollections GmbH is not liable for any damages resulting from misuse or handling of this product.

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References

- [1] M. Otto, R. Süßmuth, G. Jung, F. Götz (1998) Structure of the pheromone peptide of the *Staphylococcus epidermidis* agr system. *FEBS Lett.* 6;424(1-2), 89-94.
- [2] M. Otto, R. Süßmuth, C. Vuong, G. Jung, F. Götz (1999) Inhibition of virulence factor expression in *Staphylococcus aureus* by the *Staphylococcus epidermidis* agr pheromone and derivatives. *FEBS Lett.* 7;450(3), 257-62.
- [3] M. Otto, H. Echner, W. Voelter, F. Götz (2001) Pheromone Cross-Inhibition between *Staphylococcus aureus* and *Staphylococcus epidermidis*. *Infect Immun.* 69(3), 1957-1960. DOI: 10.1128/IAI.69.3.1957-1960.2001.
- [4] M. Otto (2001) Review: *Staphylococcus aureus* and *Staphylococcus epidermidis* peptide pheromones produced by the accessory gene regulator agr system. *Peptides.* 22(10), 1603-1608.
- [5] M. Otto (2004) Quorum-sensing control in *Staphylococci* -- a target for antimicrobial drug therapy? *FEMS Microbiol Lett.* 15;241(2), 135-141. DOI: dx.doi.org/10.1016/j.femsle.2004.11.016.
- [6] M.E. Olson, D.A. Todd, C.R. C.R Schaeffer, A.E. Paharik, M.J. Van Dyke, H. Büttner, P.M. Dunman, H. Rohde, N.B. Cech, P.D. Fey, A.R. Horswill (2014) *Staphylococcus epidermidis* agr quorum-sensing system: signal identification, cross talk, and importance in colonization. *J Bacteriol.* 196(19), 3482-3493. DOI: 10.1128/JB.01882-14.