CLAIMS

1. A polypeptide comprising an amino acid sequence according to SEQ ID No. 1 or a fragment thereof, wherein the fragment comprises an amino acid sequence according to SEQ ID No. 3, SEQ ID No. 5 or SEQ ID No. 6, and wherein the polypeptide is fused at the N- or C-terminus to a peptide stretch having membrane or LPS disrupting activity.

2. The polypeptide according to claim 1, wherein the fragment comprises an amino acid sequence according to SEQ ID No. 3.

3. The polypeptide according to any one of the preceding claims, comprising additionally a tag, preferably a His6-tag.

4. The polypeptide according to any one of the preceding claims, wherein the polypeptide has endolysin activity.

5. An isolated nucleic acid molecule encoding a polypeptide according to any one of claims 1 to 4.

6. A vector comprising the nucleic acid molecule according to claim 5.

7. A host cell comprising the nucleic acid molecule according to claim 5 or the vector according to claim 6.

8. The polypeptide according to any one of claims 1 to 4 for use in a method of treating the human or animal body by therapy.

9. Use of a polypeptide according to any one of claims 1 to 4 as an antimicrobial in food, feed or in cosmetics.

10. *Ex vivo* use of a polypeptide according to any one of claims 1 to 4 as a disinfecting agent.

11. Use of the polypeptide according to any one of claims 1 to 4 in the manufacture of a medicament for treatment or prevention of Gram-negative bacterial infections.

12. Use of the polypeptide according to any one of claims 1 to 4 for the treatment or prevention of Gram-negative bacterial contamination of foodstuff, of food processing equipment, of food processing plants, of surfaces coming into contact with foodstuff, of feed, of feed processing equipment, of feed processing plants, of surfaces coming into contact with feed, of medical devices, of surfaces in hospitals and doctor’s offices.

13. Pharmaceutical composition comprising the polypeptide according to any one of claims 1 to 4 and a pharmaceutically acceptable diluent or excipient.