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(54) Title: POLYMYXIN B ANALOGS FOR LPS DETOXIFICATION

(57) Abstract: The invention relates to SAEP II peptide dimers that mimic polymyxin B i.a. in its ability to bind non-covalently the lipopolysaccharide (LPS) of Gram-negative bacteria with high affinity, and therefore to detoxify LPS as polymyxin B does. The dimeric structure is maintained by a pair of disulphide bonds involving the two cystein residues present in the peptide sequence, which does not exceed 17 amino acids and essentially comprises cationic and hydrophobic amino acid residues. In the dimers of the invention, peptides may have a parallel or anti-parallel orientation. As a matter of example, a dimer of the invention is constituted by a peptide of formula NH2-Lys-Thr-Lys-Cysl-Lys-Phe-Leu- Leu-Leu-Cys2-COOH, either in a parallel or antiparallel dimeric form. SAEP II dimers are useful for treating or preventing septic shock and related disorders generated by Gram-negative bacteria infection. The invention also relates to LPS-peptide complexes in which LPS and SAEP II dimers are non-covalently bound together. These complexes are useful as vaccinal agents against Gram-negative bacteria infection.

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