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(54) Title: CHIMERIC POLYPEPTIDES

(57) Abstract: A chimeric or fusion protein for inducing an immune response to *P. gingivalis*, the protein comprising a first polypeptide linked to a second polypeptide, wherein: A) the first polypeptide comprises or consists of an amino acid sequence of the active site of an Arg- or Lys-gingipain of *P. gingivalis*, or a sequence that is at least 80% identical thereto; and B) the second polypeptide comprises or consists of an amino acid sequence of an adhesin domain of an Arg- or Lys-gingipain of *P. gingivalis*; wherein the second polypeptide comprises the sequence of one or more adhesin binding motifs (ABMs), and wherein the second polypeptide: a) does not comprise: a sequence of a cleaved adhesin domain (CAD) or part thereof, b) comprises an amino acid sequence corresponding substantially to the full length of the DUF2436 domain of an Arg- or Lys-gingipain, c) comprises one or more cysteine amino acid substitutions in the adhesin domain, compared to the naturally occurring Arg- or Lys-gingipain sequences in corresponding regions; and/or d) comprises one or more additional amino acid motif substitutions as defined herein.



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