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(54) Title: **GnRH-LEUKOTOXIN CHIMERAS**

GnRH-2: Gln His Trp Ser Tyr Gly Leu Arg Pro Gly
 ...CAG CAT TGG AGC TAC GGC CTG GCG CCT GGC...
 ...GTC GTA ACC TCG ATG CCG GAC GCG GGA CCG...

A

(1) Gln His Trp Ser Tyr Gly Leu Arg Pro Gly Ser Gly Ser (2) Gln Asp Trp Ser
 GnRH-2: ...CAG CAT TGG AGC TAC GGC CTG GCG CCT GGC ACC GGT TCT CAA GAT TGG AGC
 ...GTC GTA ACC TCG ATG CCG GAC GCG GGA CCG TCG CCA AGA GTT CTA ACC TCG
 1 5 10 15

(3) Tyr Gly Leu Arg Pro Gly Gly Ser Ser Gln His Trp Ser Tyr Gly Leu Arg
 TAC GGC CTG CGT CCG GGT GGC TCT ACC CAG CAT TGG AGC TAC GGC CTG GCG
 ATG CCG GAC GCA GGC CCA CCG AGA TCG GTC GTA ACC TCG ATG CCG GAC GCG
 20 25 30

(4) Pro Gly Ser Gly Ser Gln Asp Trp Ser Tyr Gly Leu Arg Pro Gly
 CCT GGC ACC GGT ACC CAA GAT TGG AGC TAC GGC CTG CGT CCG GGT...
 GGA CCG TCG CCA TCG GTT CTA ACC TCG ATG CCG GAC GCA GGC CCA...
 35 40 45 49

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(57) Abstract

New immunological carrier systems, DNA encoding the same, and the use of these systems, are disclosed. The carrier systems include chimeric proteins which include a leukotoxin polypeptide fused to one or more selected GnRH multimers which comprise at least one repeating GnRH decapeptide sequence, or at least one repeating unit of a sequence corresponding to at least one epitope of a selected GnRH molecule. Under the invention, the selected GnRH sequences may all be the same, or may correspond to different derivatives, analogues, variants or epitopes of GnRH so long as the GnRH sequences are capable of eliciting an immune response. The leukotoxin functions to increase the immunogenicity of the GnRH multimers fused thereto.