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Spencer et al.

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[54] **THERAPEUTIC USES OF HUMAN SOMATOMEDIN CARRIER PROTEINS**

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Related U.S. Application Data

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[51] **Int. Cl.**[6] **A61K 38/17**; A61K 38/30; A61K 38/18; C12N 15/12

[52] **U.S. Cl.** **514/12**; 436/69.1

[58] **Field of Search** 514/12; 435/69.1

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[57] **ABSTRACT**

This invention relates to polypeptides that are human somatomedin carrier protein subunits and to processes for producing them. The carrier protein subunits bind to human somatomedin-like polypeptides, also known as insulin-like growth factors. The process involves preparation from a human serum fraction, Cohn IV-1, by a molecule of various chromatographic steps.

This invention also relates to DNA molecules encoding human somatomedin carrier protein-like polypeptides, recombinant DNA molecules, hosts, processes for producing carrier protein-like polypeptides, human somatomedin carrier protein-like polypeptides produced using those molecules, hosts and processes. The invention relates to DNA molecules and their expression in appropriate hosts. The recombinant DNA molecules contain DNA molecules that code for polypeptides which have a biological activity of the human carrier protein or a human carrier protein subunit capable of binding somatomedins. The DNA molecules, recombinant DNA molecules, hosts, and processes of this invention may be used in the production of polypeptides useful in a variety of therapeutic, diagnostic, and other useful applications.

16 Claims, 11 Drawing Sheets

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                GLY                                     PHE
                 or                                      or
GLY-ALA-SER-SER-ALA-GLY-LEU-GLY-PRO-VAL-VAL-ARG-CYS-GLU-PRO-
                                    (10)

CYS-ASP-ALA-ARG-ALA-LEU-ALA-GLN-CYS-ALA-PRO-PRO-PRO-ALA-VAL-
                (20)                                     (30)
                                                        >......
                                                        GCT GTG

CYS-ALA-GLU-LEU-VAL-ARG-GLU-PRO-GLY-CYS-GLY-CYS-CYS-LEU-( )-
                                    (40)
..................... 48mer ......................>
TGT GCT GAG CTG GTG AGG GAG CCA GGC TGT GGC TGC TGC CTG

CYS-ALA-LEU-SER-GLU-GLY-GLN-PRO-( )-GLY-ILE-TYR
                (50)
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