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(54) Title: PROCESS FOR IMPROVED PROTEIN EXPRESSION BY STRAIN ENGINEERING

(57) Abstract: This invention is a process for improving the production levels of recombinant proteins or peptides or improving the level of active recombinant proteins or peptides expressed in host cells. The invention is a process of comparing two genetic profiles of a cell that expresses a recombinant protein and modifying the cell to change the expression of a gene product that is upregulated in response to the recombinant protein expression. The process can improve protein production or can improve protein quality, for example, by increasing solubility of a recombinant protein.

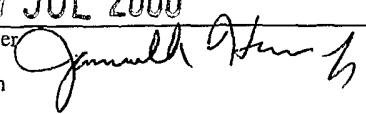


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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC(8) : C12P21/06 US CL : 435/69.1 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 435/69.1 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,776,730 (Stuart) 7 July 1998 (07.07.1998) column 4, lines 49-60, column 5, lines 60-65, column 6, lines 9-14 and column 10, lines 50-55.	49, 51
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A		50-52-53
A	US 6,696,561 (Pompejus et al) 24 Feb 2004 (24.02.2004), column 14, lines 37-55, column 15, lines 34-37 and 60-67, column 30, lines 17-22, column 36, lines 50-55 and column 26, lines 38-45	1-53
A	US 6,607,885 (Larossa et al), 19 August 2003 (19.08.2003), column 9, lines 27-30, column 16, lines 4-8, and column 23-24, Example 4.	1-53
A	Gill. R.T. et al Genomic analysis of high-cell-density recombinant E. coli fermentation and cell conditioning for improved recombinant protein yield. Biotechnol Bioeng. January 2001, Vol 72. No.1, pages 85-95.	1-53
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Name and mailing address of the ISA/US Mail Stop PCT. Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer  Laura McGillem Telephone No. 571-272-1600