

[54] MULTICHAIN POLYPEPTIDES OR PROTEINS AND PROCESSES FOR THEIR PRODUCTION

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[58] Field of Search 435/68, 172.3, 243, 435/320, 253, 255

[56] References Cited

U.S. PATENT DOCUMENTS

4,403,036 9/1983 Hartley et al. 435/68
4,642,334 2/1987 Moore et al. 435/68

FOREIGN PATENT DOCUMENTS

037723 10/1981 European Pat. Off. .

041313 12/1981 European Pat. Off. .
041767 12/1981 European Pat. Off. .
055945 7/1982 European Pat. Off. .
075444 3/1983 European Pat. Off. .
088994 9/1983 European Pat. Off. .
0125023 11/1984 European Pat. Off. .

OTHER PUBLICATIONS

Adams et al., *Biochemistry*, vol. 19, pp. 2711-2719, 1980.

Haley et al., *DNA*, vol. 1, pp. 155-162, 1982.

Gough et al., *Biochemistry*, vol. 19, pp. 2702-2710, 1980.

Iserentant et al., *Gene*, vol. 9, pp. 1-12, 1980.

Seidman et al.: "Immunoglobulin light-chain structural gene sequences cloned in a bacterial plasmid," *Nature*, vol. 271, pp. 582-585, 1978.

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[57] ABSTRACT

Multichain polypeptides or proteins and processes for their production in cells of host organisms which have been transformed by recombinant DNA techniques. According to a first aspect of the present invention, there is provided a process for producing a heterologous multichain polypeptide or protein in a single host cell, which comprises transforming the host cell with DNA sequences coding for each of the polypeptide chains and expressing said polypeptide chains in said transformed host cell. According to another aspect of the present invention there is provided as a product of recombinant DNA technology an Ig heavy or light chain or fragment thereof having an intact variable domain. The invention also provides a process for increasing the level of protein expression in a transformed host cell and vectors and transformed host cells for use in the processes.

18 Claims, 13 Drawing Sheets

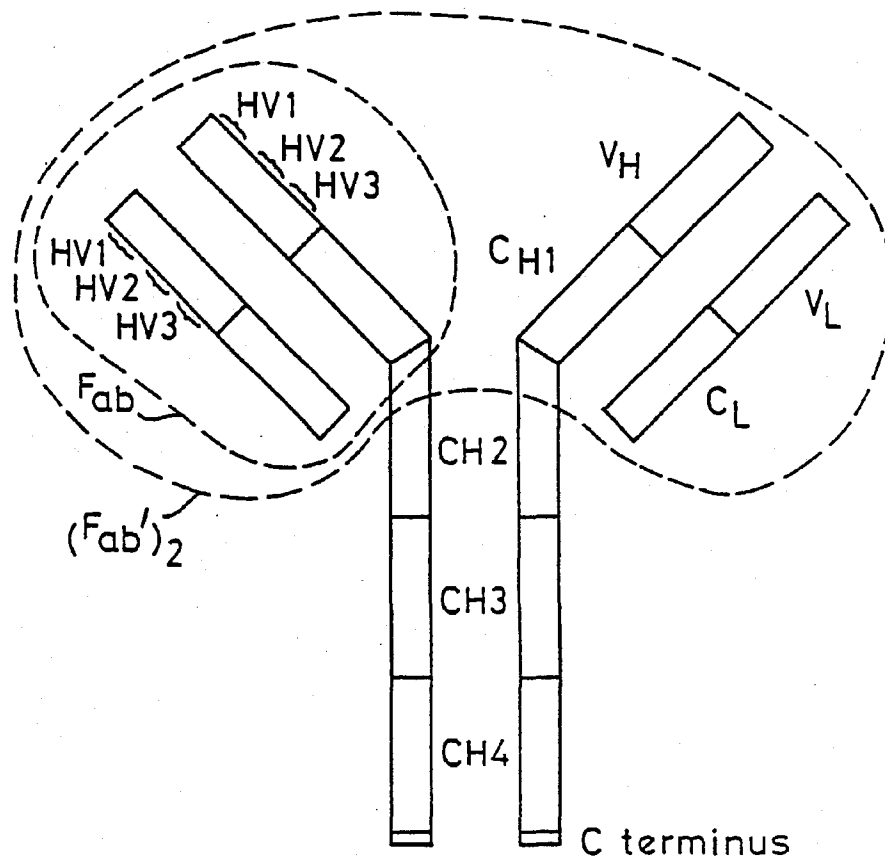
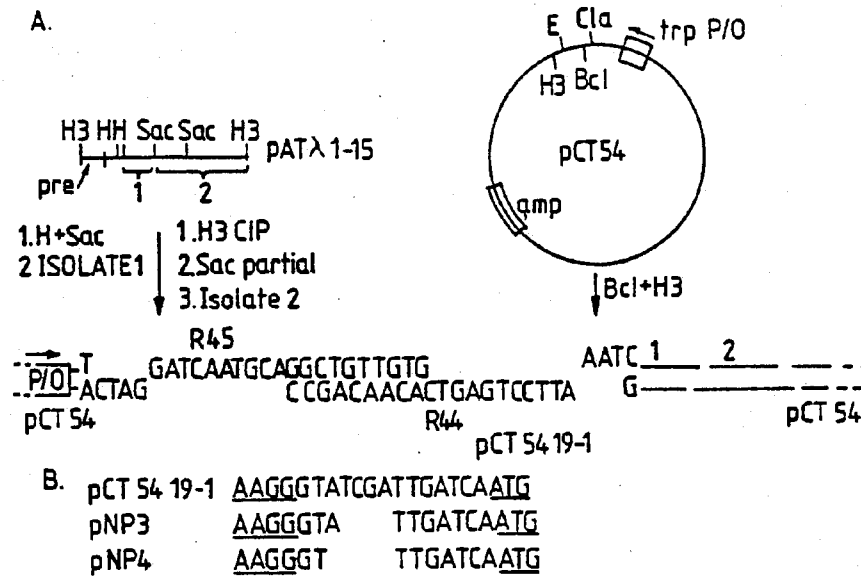


FIG. 1



Legend. E = E corRI
H = HinfI
H3= Hind III

FIG. 2

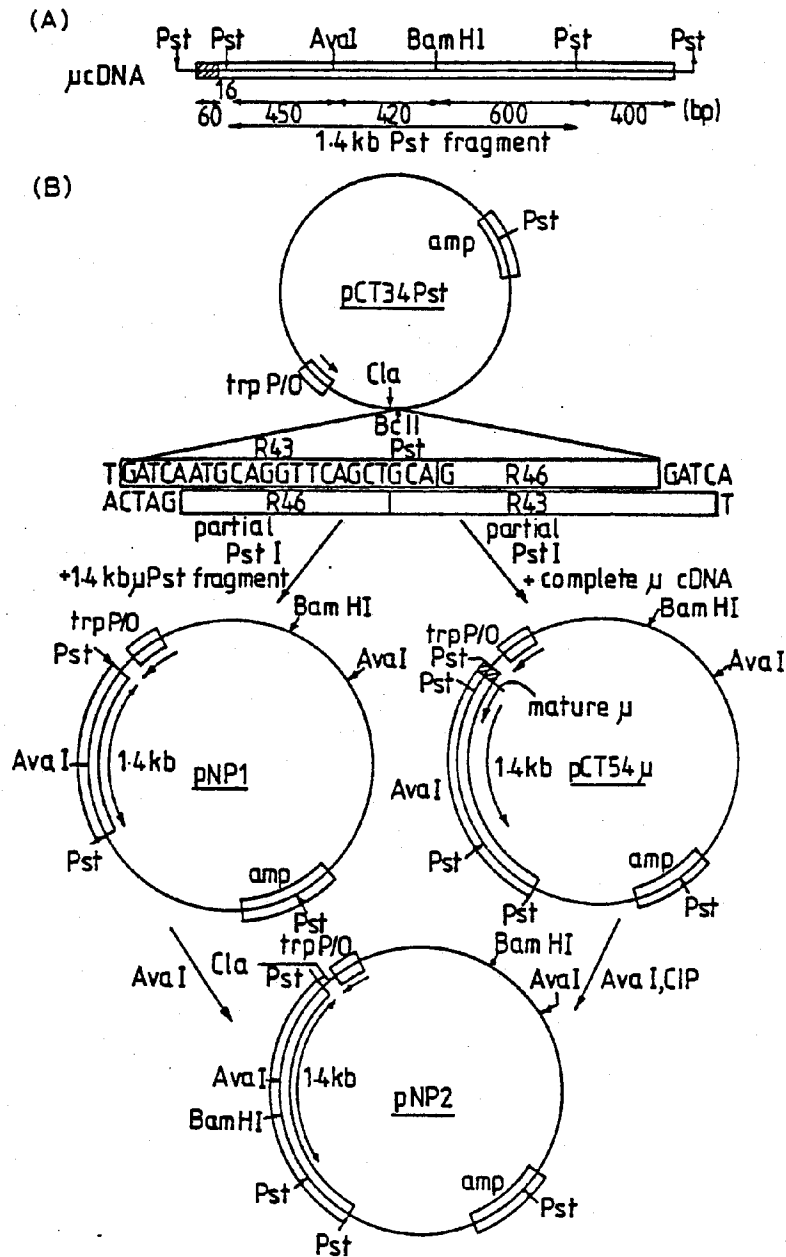
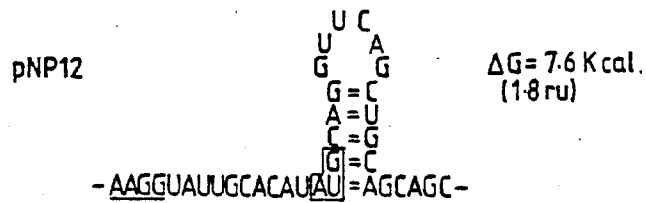
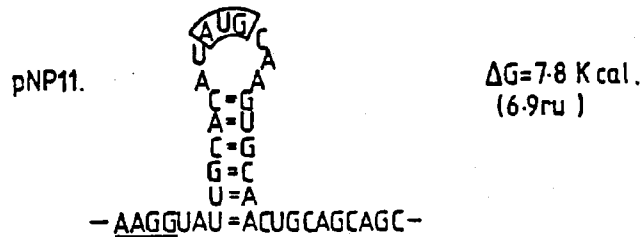
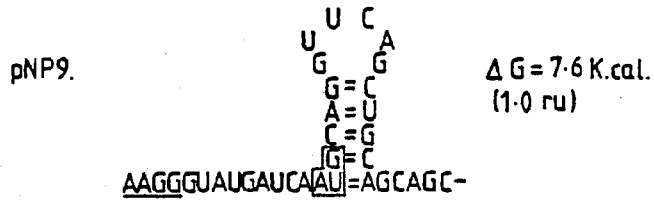


FIG. 3

Possible 2° structures of μ mRNAs

5'→3'



pNP14. (101.2 ru)



FIG. 4

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