Claims

1. A method for the production of a protein which comprises expressing an expression system comprising
a) a promoter;
b) a perfect palindrome operator sequence; and
c) an expression cassette for a protein;
characterised in that the promoter is not T7.

2. A method according to claim 1, which comprises expressing, in a mammalian cell culture, an expression system comprising:
a) a mammalian promoter; and
b) two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter; and
c) an expression cassette for a recombinant protein.

3. A method according to claim 1, which comprises:
a) preparing an expression system comprising a mammalian promoter; two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter, and an expression cassette for a protein;
b) delivering the expression system into a mammalian host cell;
c) expressing the expression system in a cell culture of the mammalian host cell.

4. A method according to claim 2 or 3, wherein the operator sequences are selected from lac, gal, deo or gln.

5. A method according to any one of claims 2 to 4, wherein the operator sequences are spaced from 85 to 150 base pairs apart.

6. A method according to claim 5, wherein the operator sequences are spaced from 90 to 126 base pairs apart.

7. A method according to claim 6, wherein the operator sequences are spaced 91 or 92 base pairs apart.

8. A method according to any one of claims 2 to 7, wherein the expression system is integrated into the host cell genome.

9. A method according to any one of claims 2 to 7, wherein the expression system is extrachromosomal.

10. A method according to any one of claims 2 to 9, wherein the mammalian cell is a human, murine or hamster cell.

11. A method according to claim 10, wherein the cell is a Chinese hamster ovary cell.

12. A method according to any one of claims 2 to 11, which comprise the further step of recovering the protein from the mammalian cell.

13. A method according to any one of claims 2 to 12, wherein the promoter is an hCMV promoter.

14. A plasmid comprising:
a) a promoter; and
b) a perfect palindrome operator sequence;
characterised in that the promoter is not T7.

15. A plasmid according to claim 14, wherein the plasmid is a non-integrating plasmid comprising:
a) a mammalian promoter; and
b) two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter; and
c) an expression cassette for a recombinant protein.

16. A plasmid according to claim 15, wherein the operator sequences are selected from lac, gal, deo or gln.

17. A plasmid according to either of claims 15 and 16, wherein the operator sequences are spaced from 85 to 150 base pairs apart.

18. A plasmid according to claim 17, wherein the operator sequences are spaced from 90 to 126 base pairs apart.

19. A plasmid according to claim 18, wherein the operator sequences are spaced 91 or 92 base pairs apart.

20. A plasmid according to any one of claims 15 to 19, wherein the promoter is an hCMV promoter.

21. A mammalian cell comprising a plasmid according to any one of claims 15 to 20.

22. A mammalian cell according to claim 21, wherein the mammalian cell is a human, murine or hamster cell.

23. A mammalian cell according to claim 22, wherein the cell is a Chinese hamster ovary cell.

Claims

1. A method for the production of a protein which comprises expressing, in a mammalian cell culture, an expression system comprising:
a) a promoter, wherein the promoter is not T7; and
b) two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter; and
c) an expression cassette for a recombinant protein.

2. A method according to claim 1, which comprises:
a) preparing an expression system comprising a promoter, wherein the promoter is not T7; two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter, and an expression cassette for a protein;
b) delivering the expression system into a mammalian host cell;
c) expressing the expression system in a cell culture of the mammalian host cell.

3. A method according to claim 1 or 2, wherein the operator sequences are selected from lac, gal, deo or gln.

4. A method according to any one of claims 1 to 3, wherein the operator sequences are spaced from 85 to 150 base pairs apart, and preferably 91 or 92 base pairs apart.

5. A method according to any one of claims 1 to 4, wherein the expression system is integrated into the host cell genome.

6. A method according to any one of claims 1 to 4, wherein the expression system is extrachromosomal.

7. A method according to any one of claims 1 to 6, wherein the mammalian cell is a human, murine or hamster cell.

8. A method according to claim 7, wherein the cell is a Chinese hamster ovary cell.

9. A method according to any one of claims 1 to 8, which comprise the further step of recovering the protein.

10. A method according to any one of claims 1 to 9, wherein the promoter is an hCMV promoter.

11. A vector for expression of a protein in a mammalian cell comprising:
a) a promoter, wherein the promoter is not T7; and
b) two or more perfect palindrome operator sequences, at least one operator sequence being located downstream of the promoter, and at least one operator sequence being located upstream of the promoter; and
c) an expression cassette for a recombinant protein.

12. A vector according to claim 11, wherein the vector is a non-integrating plasmid.

13. A vector according to claim 11 or 12, wherein the operator sequences are selected from lac, gal, deo or gln.

14. A vector according to any one of claims 11 to 13, wherein the promoter is an hCMV promoter.

15. A mammalian cell, preferably a Chinese hamster ovary cell, comprising a vector according to any one of claims 11 to 14.