PROPOSED AMENDMENTS

CLAIMS

1. A polynucleotide in substantially isolated form which comprises a contiguous sequence of nucleotides which is capable of selectively hybridizing to Seq. ID. No 1 or to the complement of Seq. ID No. 1.

2. A polynucleotide according to claim 1 which is a DNA polynucleotide.

3. A polynucleotide according to claim 1 or 2 wherein the contiguous sequence comprises at least 20 nucleotides.

4. A polynucleotide according to claim 3 which comprises Seq. ID No. 1.

5. A double stranded polynucleotide comprising a polynucleotide according to any one of claims 1 to 4 and its complement.

6. A polynucleotide according to any one of claims 1 to 5 carrying a revealing label.

7. A recombinant replicable vector which comprises a polynucleotide according to any one of claims 1 to 6.

8. A host cell comprising a vector according to claim 7.

9. A polypeptide in substantially isolated form which comprises:

(a) the protein of Seq. ID No. 2; or
(b) an allelic variant or species homologue thereof; or
(c) a protein at least 70% homologous to (a); or
(d) a fragment of any one of (a) to (c) capable of forming a complex with the E2F-1 protein or related family member; or
(e) a fragment of any one of (a) to (c) of at least 15 amino acids.

10. A polypeptide .... homologs thereto.

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11
~~10~~. A polypeptide according to claim 9 or 10 carrying a revealing label.

12
~~11~~. A composition comprising a polypeptide according to claim 9 ~~or~~ to 11 ~~10~~ together which a carrier or a diluent.

13
~~12~~. A polypeptide according to claim 9 ~~or~~ to 11 ~~10~~ fixed to a solid phase.

14
~~13~~. A double stranded DNA encoding a polypeptide as defined in claim 9 or 10

15
~~14~~. An recombinant replicable vector comprising a coding sequence which encodes a polypeptide as defined in claim 9 or 10.

16.
~~15~~. A host cell transformed by a recombinant vector according to claim ~~14~~.15

17
~~16~~. A host cell transformed by a recombinant vector according to claim ~~14~~ 15 wherein the coding sequence is operably linked to a control sequence capable of providing for the expression of the coding sequence by the host cell.

18
~~17~~. A process for preparing a polypeptide according to claim 9 or 10 which comprises cultivating a host cell according to claim ~~16~~ 17 under conditions to provide for expression by the recombinant vector of the coding sequence, and recovering the expressed polypeptide.

19
~~18~~. An antibody capable of binding:

(a) the protein of Seq. ID No. 2; or

(b) an allelic variant or species homologue thereof; or

(c) a protein at least 70% homologous to (a); or

(d) a fragment of any one of (a) to (c) capable of forming a complex with the E2F-1 protein or related family member; or

(e) a fragment of any one of (a) to (c) of at least 15 amino acids.

(f) the polypeptide of claim 10.

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20. ~~19.~~ An antibody according to claim ~~18~~ 19 which is a monoclonal antibody.

21. ~~20.~~ An antibody according to claim ~~18~~ 19 or ~~19~~ 20 carrying a revealing label.

22. ~~21.~~ An antibody according to any one of claims ~~18~~ 19 to ~~20~~ 21 fixed to a solid phase.

23. ~~22.~~ A hybridoma cell line which produces a monoclonal antibody according to claim ~~19~~ 20.

24. ~~23.~~ An immunoassay for detecting the presence or absence of a polypeptide according to claim 9 or 10 in a sample which comprises:

(a) providing an antibody according to any one of claims ~~18~~ 19 to ~~21~~ 22;

(b) incubating the sample with said antibody under conditions that allow for the formation of an antibody-antigen complex; and

(c) detecting said antibody-antigen complex.

25. ~~24.~~ A screening method for identifying putative chemotherapeutic agents for the treatment of proliferative or viral disease which comprises

(A) bringing into contact:

(i) a polypeptide according to any one of claims 9 to 11 ~~claim 9 or 10~~;

(ii) (a) the E2F-1 protein, or

(b) an alleic variant or species homologue thereof, or

(c) an E2F-1 family member having at least 70% homology over the DNA binding region, or

(d) a fragment of (a), (b) or (c) capable of forming a functional trans-activation complex with the protein of Seq. ID No. 2; or

(e) a fusion protein comprising (a), (b), (c), or (d); and

(iii) a putative chemotherapeutic agent;

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under conditions in which the components (i) and (ii) in the absence of (iii) form a complex, and
(B) measuring the extent to which component (iii) is able to disrupt or inhibit the activity of said complex.

26 25
~~25~~. An assay according to claim ~~23~~ wherein the complex of (i) and (ii) is measured by its ability to bind an E2F DNA binding site in vitro.

27 25
~~26~~. An assay according to claim ~~23~~ wherein the complex of (i) and (ii) is measured by its ability to activate in vivo a promoter comprising an E2F binding site linked to a reporter gene.

28 27
~~27~~. An assay according to claim ~~26~~ wherein the assay is performed in a yeast cell, insect cell or a mammalian cell.

29 25 27
~~28~~. An assay according to any one of claims ~~23~~ to ~~26~~ wherein the putative chemotherapeutic agent is a fragment of 10 or more amino acids of:

(a) the protein of Seq. ID No. 2; or
(b) an allelic variant or mammalian homologue thereof; or
(c) a protein at least 70% homologous to (a).

30
~~29~~. An assay according to claim 28 wherein the fragment is a polypeptide fragment falling within the region of 160 to 220 of Seq. ID No. 2.

31 10 11
~~30~~. A polypeptide according to claim 9 ~~or 10~~ or an antibody 19 21
according to any one of claims ~~18~~ to ~~20~~ for use in a method of treatment of the human or animal body.

32 15
~~31~~. A vector according to claim 7 or ~~14~~ for use in a method of treatment of the human or animal body.

~~32. A method of treating uncontrolled proliferation of cells in a patient in need of treatment which comprises administering to the patient an effective amount of a vector according to claim 7 or 14, or a polynucleotide according to claim 1.~~

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55-56

TRANSCRIPTION FACTOR

Abstract

The invention provides a polynucleotide in substantially isolated form which comprises a contiguous sequence of nucleotides which is capable of selectively hybridizing to Seq. ID No. 1 or to the complement of Seq. ID No. 1, and a polypeptide in substantially isolated form which comprises: (a) the protein of Seq. ID No. 2; or (b) an allelic variant or species homologue thereof; or (c) a protein at least 70% homologous to (a); or (d) a fragment of any one of (a) to (c) capable of forming a complex with the E2F-1 protein or related family member; or (e) a fragment of any one of (a) to (c) of at least 15 amino acids.

Figure 8