What is claimed is:

1. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding an amino acid sequence comprising at least 5 contiguous amino acids of a mutant Ras protein, wherein the amino acid sequence contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 76 is mutated as compared to the wild-type protein.

2. The isolated nucleic acid molecule of Claim 1, wherein the amino acid at position 76 is mutated from a glutamate to a non-glutamate amino acid residue selected from the group consisting of: glycine, lysine, and glutamine.

3. The isolated nucleic acid molecule of Claim 2, wherein the non-glutamate amino acid residue is glycine.

4. The isolated nucleic acid molecule of Claim 1, wherein the amino acid sequence differs from any one of SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:13 by a substitution of a non-glutamate amino acid for the glutamate at position 76 of said SEQ ID NO:3, SEQ ID NO:5, SEQ ID NO:7, SEQ ID NO:9, SEQ ID NO:11, or SEQ ID NO:13.

5. The isolated nucleic acid molecule of Claim 1, wherein the amino acid sequence further comprises at least 5 contiguous amino acid residues of a mutant Ras protein, wherein the amino acid sequence contains the amino acid position selected from the group consisting of 12, 13, 59 and 61 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at the position is mutated as compared to the wild-type protein.

6. The isolated nucleic acid molecule of Claim 1, wherein the amino acid sequence further comprises at least 5 contiguous amino acids of a mutant Ras protein, wherein the amino acid sequence contains the amino acid at position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 12 is mutated as compared to the wild-type protein.

7. The isolated nucleic acid molecule of Claim 6, wherein the amino acid at positions 12 or 13 are mutated from a glycine to a non-glycine amino acid residue.

8. The isolated nucleic acid molecule of Claim 6, wherein the amino acid at position 12 is mutated from a glycine to a non-glycine amino acid residue.

9. The isolated nucleic acid molecule of Claim 7 or Claim 8, wherein the non-glycine amino acid residue is selected from the group consisting of valine, cysteine, aspartate, arginine, serine, and alanine.

10. The isolated nucleic acid molecule of Claim 1, wherein the nucleic acid sequence encodes a fusion protein comprising two or more domains, wherein one of the domains comprises the at least 5 amino acids of the mutant Ras protein comprising the mutation at position 76, and wherein each additional domain consists of an immunogen.

11. The isolated nucleic acid molecule of Claim 10, wherein the immunogen is a tumor antigen.

12. The isolated nucleic acid molecule of Claim 11, wherein the tumor antigen is a Ras protein or immunogenic fragment thereof comprising at least one mutation relative to a wild-type Ras amino acid sequence.

13. The isolated nucleic acid molecule of Claim 12, wherein the tumor antigen is a Ras protein or immunogenic fragment thereof comprising positions 12 or 13 with respect to the wild-type Ras amino acid sequence, wherein the amino acid at positions 12 or 13 is mutated from a glycine residue to a non-glycine residue.

14. The isolated nucleic acid molecule of Claim 10, wherein the tumor antigen is selected from the group consisting of: (a) a peptide comprising at least from positions 8-16 of a Ras protein, wherein the amino acid residue at position 12 with respect to the wild-type Ras protein is mutated; (b) a peptide comprising at least from positions 9-17 of a Ras protein, wherein the amino acid residue at position 13 with respect to the wild-type Ras protein is mutated; (c) a peptide comprising at least from positions 55-63 of a Ras protein, wherein the amino acid residue at position 59 with respect to the wild-type Ras protein is mutated; (d) a peptide comprising at least from positions 57-65 of a Ras protein, wherein the amino acid residue at position 61 with respect to the wild-type Ras protein is mutated; (e) a peptide comprising at least from positions 69-77 of a Ras protein, wherein the amino acid residue at position 73 with respect to the wild-type Ras protein is mutated; (f) a peptide comprising at least from positions 70-78 of a Ras protein, wherein the amino acid residue at position 74 with respect to the wild-type Ras protein is mutated; (g) a peptide comprising at least from positions 71-79 of a Ras protein, wherein the amino acid residue at position 75 with respect to the wild-type Ras protein is mutated; (h) a peptide comprising at least from positions 73-81 of a Ras protein, wherein the amino acid residue at position 77 with respect to the wild-type Ras protein is mutated; and (i) a peptide comprising at

least from positions 74-82 of a Ras protein, wherein the amino acid residue at position 78 with respect to the wild-type Ras protein is mutated.

15. The isolated nucleic acid molecule of Claim 1, wherein the nucleic acid sequence encodes a fusion protein comprising the amino acid sequence of SEQ ID NO:14.

16. The isolated nucleic acid molecule of Claim 1, wherein the nucleic acid sequence encodes a fusion protein comprising the amino acid sequence of SEQ ID NO:15.

17. An isolated nucleic acid molecule that is fully complementary to the nucleic acid sequence of any one of Claims 1 to 16.

18. The isolated nucleic acid molecule of any one of Claims 1 to 17, wherein the nucleic acid molecule is an oligonucleotide probe or a primer.

19. A recombinant nucleic acid molecule comprising the isolated nucleic acid molecule of any one of Claims 1 to 16, operatively linked to at least one expression control sequence.

20. A recombinant cell that has been transfected with the recombinant nucleic acid molecule of Claim 19.

21. The recombinant cell of Claim 20, wherein the cell is a yeast.

22. An isolated protein or peptide encoded by the isolated nucleic acid molecule of any one of Claims 1 to 16.

23. The isolated protein or peptide of Claim 22, wherein said isolated protein or peptide is part of a fusion protein.

24. A vaccine comprising the nucleic acid molecule of any one of Claims 1 to 16.

25. A vaccine comprising the protein or peptide of Claim 22.

26. The vaccine of Claim 25, wherein the vaccine further comprises a yeast vehicle.

27. The vaccine of Claim 26, wherein the yeast vehicle recombinantly expresses the protein or peptide.

28. The vaccine of Claim 26, wherein the vaccine further comprises a dendritic cell, wherein the dendritic cell has been loaded intracellularly with the yeast vehicle and the protein or peptide.

29. A vaccine comprising:

a) a yeast vehicle; and

b) a fusion protein comprising a mutant Ras protein or fragment thereof, wherein the protein or fragment thereof contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 76 is mutated as compared to the wild-type protein, wherein expression of the fusion protein is under the control of the *Cup1* promoter;

wherein the fusion protein is expressed by the yeast vehicle.

30. The vaccine of Claim 29, wherein the fusion protein further comprises a second mutant Ras protein or fragment thereof, wherein the second protein or fragment thereof contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 12 is mutated as compared to the wild-type protein.

31. The vaccine of Claim 29, wherein the fusion protein comprises the following proteins or fragments, fused in frame:

i) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with a cysteine;

ii) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 61 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamine at position 61 is substituted with an arginine;

iii) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an aspartate;

iv) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with a valine;

v) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an arginine; and

vi) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamate at position 76 is substituted with a glycine.

32. The vaccine of Claim 29, wherein the fusion protein comprises the following proteins or fragments, fused in frame:

i) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an arginine;

ii) a mutant Ras protein or fragment thereof, wherein the protein or fragment contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamate at position 76 is substituted with a glycine.

33. The vaccine of Claim 29, wherein the fusion protein comprises the amino acid sequence of SEQ ID NO:14.

34. The vaccine of Claim 29, wherein the fusion protein comprises the amino acid sequence of SEQ ID NO:15.

35. An antibody or antigen binding fragment thereof that selectively binds to the isolated protein or peptide of Claim 22.

36. An aptamer that selectively binds to the isolated protein or peptide of Claim 22.

37. An siRNA molecule catalyzes the selective cleavage of RNA transcribed by the nucleic acid molecule of any one of Claims 1-16, or of RNA transcribed by a *ras* gene encoding a mutant Ras protein, wherein the mutant Ras protein comprises an amino acid sequence that differs from a wild-type K-ras, N-ras or H-ras amino acid sequence by at least a mutation at position 76 with respect to the wild-type amino acid sequence.

38. A ribozyme that selectively catalyzes the inactivation of the nucleic acid molecule of any one of Claims 1-16 or of a *ras* gene encoding a mutant Ras protein, wherein the mutant Ras protein comprises an amino acid sequence that differs from a wild-type K-ras, N-ras or H-ras amino acid sequence by at least a mutation at position 76 with respect to the wild-type amino acid sequence.

39. An antisense nucleic acid molecule that hybridizes under very high stringency conditions to and inhibits the expression of the nucleic acid molecule of any one of Claims 1-16 or of a *ras* gene encoding a mutant Ras protein, wherein the mutant Ras protein comprises an amino acid sequence that differs from a wild-type K-ras, N-ras or H-ras amino acid sequence by at least a mutation at position 76 with respect to the wild-type amino acid sequence.

40. Use of the nucleic acid molecule of any one of Claims 1-16 or the protein or peptide of Claim 22 or 23, in the preparation of a composition for the prevention or treatment of cancer.

41. Use of the vaccine of any one of Claims 24-34 in the preparation of a medicament for the prevention or treatment of cancer.

42. Use of the aptamer of Claim 36, the siRNA of Claim 27, the ribozyme of Claim 38, or the antisense nucleic acid molecule of Claim 39 in the preparation of a medicament for the prevention or treatment of cancer.

43. A method to prevent or treat a cancer, comprising administering to an animal that has or is at risk of developing a cancer, a vaccine according to any one of Claims 24 to 34.

44. A method to prevent or treat a cancer, comprising administering to an animal that has or is at risk of developing a cancer, the aptamer of Claim 36, the siRNA of Claim 27, the ribozyme of Claim 38, or the antisense nucleic acid molecule of Claim 39.

45. A method to prevent or treat a cancer, comprising administering to an animal that has or is at risk of developing a cancer, a compound that inhibits the expression of a mutant Ras protein, wherein the mutant Ras protein comprises an amino acid sequence that differs from a wild-type K-ras, N-ras or H-ras amino acid sequence by at least a mutation at position 76 with respect to the wild-type amino acid sequence.

46. A method to prevent or treat a cancer, comprising administering to an animal that has or is at risk of developing a cancer, a compound that initiates or triggers GTP hydrolysis of a mutant Ras protein, wherein the mutant Ras protein comprises an amino acid sequence that differs from a wild-type K-ras, N-ras or H-ras amino acid sequence by at least a mutation at position 76 with respect to the wild-type amino acid sequence.

47. A method for the diagnosis of a tumor comprising detecting expression or activity of a mutant Ras protein or nucleic acid sequence encoding said Ras protein a in a

test sample from a patient to be diagnosed, wherein the Ras protein comprises a mutation at position 76 with respect to the wild-type Ras amino acid sequence;

wherein detection of the mutant Ras protein or nucleic acid sequence encoding said Ras protein in the test sample indicates the presence of tumor cells or potential therefore in the test sample.

48. The method of Claim 47, wherein the Ras protein comprises a substitution of a glycine for the glutamate at position 76 in wild-type protein.

49. The method of Claim 47, wherein the method further comprises detecting whether the Ras protein also comprises a mutation at position 12 with respect to the wild-type Ras amino acid sequence, wherein detection of a mutation at position 76 and position 12 indicates the presence of tumor cells or potential therefore in the test sample, and further indicates a more aggressive tumor in the patient as compared to tumor cells harboring a Ras protein with only one mutation or no mutation at these positions.

50. The method of Claim 47, wherein the step of detecting comprises detecting a nucleic acid sequence encoding the Ras mutation in the test sample

51. The method of Claim 50, wherein the step of detecting comprises PCR amplification of a genomic DNA template encoding the mutation or *in situ* PCR amplification of DNA sequences encoding the mutation.

52. The method of Claim 50, wherein the step of detecting is by a method selected from the group consisting of polymerase chain reaction (PCR), reverse transcriptase-PCR (RT-PCR), *in situ* hybridization, Northern blot, sequence analysis, gene microarray analysis, and detection of a reporter gene.

53. The method of Claim 47, wherein the level of nucleic acid sequence encoding the mutant Ras protein is determined by contacting nucleic acids isolated from the test sample with a primer or probe that selectively binds to the nucleic acid sequence encoding the mutant Ras protein, and detecting whether the nucleic acid sequence encoding the mutated Ras protein is bound by the primer or probe.

54. The method of Claim 47, wherein the level of mutant Ras protein is determined by contacting the test sample with an antibody or a fragment thereof or an aptamer that selectively binds specifically to the mutant Ras protein, and detecting whether the antibody or fragment thereof or aptamer has bound to the mutant Ras protein.

55. The method of Claim 47, wherein the test sample is from a patient being diagnosed for cancer and wherein the test sample is compared to a negative control sample.

56. The method of Claim 47, wherein the test sample is immobilized on a substrate.

57. The method of Claim 47, wherein the method is used to diagnose cancer in the patient.

58. The method of Claim 47, wherein the method is used to determine the prognosis for cancer in the patient.

59. The method of Claim 47, wherein the method is used to determine the susceptibility of the patient to a therapeutic treatment.

60. A method for identifying a compound for preventing or treating cancer, comprising identifying an inhibitor of a target Ras protein or a nucleic acid molecule encoding the target Ras protein, wherein the target Ras protein comprises a mutation at position 76 relative to a wild-type Ras protein

61. The method of Claim 60, wherein the mutation is a substitution of a non-glutamate amino acid selected from the group consisting of a glycine, a lysine and a glutamine for the glutamate at position 76 in the wild-type protein.

62. The method of Claim 60, wherein the step of identifying comprises identifying an inhibitor of expression or activity of the target Ras protein.

63. The method of Claim 62, wherein the step of detecting is selected from the group consisting of: detecting translation or activity of the target Ras protein in the presence of the putative regulatory compound; and detecting expression of a gene encoding the target Ras protein in the presence of the putative regulatory compound.

64. The method of Claim 62, comprising the steps of:

a) contacting a host cell with a putative regulatory compound, wherein the host cell expresses the target Ras protein or a biologically active fragment thereof; and

b) detecting whether the putative regulatory compound triggers GTP hydrolysis of the target Ras protein or biologically active fragment thereof, wherein a putative regulatory compound that triggers GTP hydrolysis of the target Ras protein as compared to in the absence of the compound is indicated to be a candidate compound for the prevention or treatment of cancer.

65. The method of Claim 64, wherein the host cell is a tumor cell line.

66. A method for identifying a compound for preventing or treating cancer, comprising identifying compound that triggers GTP hydrolysis in a cell expressing a target

mutated Ras protein, but not in a cell expressing a wild-type Ras protein, wherein the target mutated Ras protein comprises a mutation at position 76 relative to a wild-type Ras protein.

67. The method of any one of Claims 60 to 66, wherein the putative regulatory compound is selected from the group consisting of: an aptamer, an siRNA molecule, an antisense nucleic acid molecule, a ribozyme, an antibody or antigen binding fragment thereof, a conformational antagonist, and a small molecule inhibitor.

What is claimed is:

1. An isolated nucleic acid molecule comprising a nucleic acid sequence encoding a Ras amino acid sequence comprising at least 5 contiguous amino acids of a mutant Ras protein, wherein the amino acid sequence contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 76 is mutated as compared to the wild-type protein.

2. The isolated nucleic acid molecule of Claim 1, wherein the amino acid at position 76 is mutated from a glutamate to a non-glutamate amino acid residue selected from the group consisting of: glycine, lysine, and glutamine.

3. The isolated nucleic acid molecule of Claim 1, wherein the amino acid sequence further comprises at least 5 contiguous amino acid residues of a mutant Ras protein, wherein the amino acid sequence contains the amino acid position selected from the group consisting of 12, 13, 59 and 61 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at the position is mutated as compared to the wild-type protein.

4. The isolated nucleic acid molecule of Claim 1, wherein the nucleic acid sequence encodes a fusion protein comprising two or more domains, wherein one of the domains comprises the at least 5 amino acids of the mutant Ras protein comprising the mutation at position 76, and wherein each additional domain consists of an immunogen which is a Ras protein or immunogenic fragment thereof comprising at least one mutation relative to a wild-type Ras amino acid sequence.

5. The isolated nucleic acid molecule of Claim 4, wherein the immunogen is selected from the group consisting of:

(a) a peptide comprising at least from positions 8-16 of a Ras protein, wherein the amino acid residue at position 12 with respect to the wild-type Ras protein is mutated;

(b) a peptide comprising at least from positions 9-17 of a Ras protein, wherein the amino acid residue at position 13 with respect to the wild-type Ras protein is mutated;

(c) a peptide comprising at least from positions 55-63 of a Ras protein, wherein the amino acid residue at position 59 with respect to the wild-type Ras protein is mutated;

(d) a peptide comprising at least from positions 57-65 of a Ras protein, wherein the amino acid residue at position 61 with respect to the wild-type Ras protein is mutated;

(e) a peptide comprising at least from positions 69-77 of a Ras protein, wherein the amino acid residue at position 73 with respect to the wild-type Ras protein is mutated;

(f) a peptide comprising at least from positions 70-78 of a Ras protein, wherein the amino acid residue at position 74 with respect to the wild-type Ras protein is mutated;

(g) a peptide comprising at least from positions 71-79 of a Ras protein, wherein the amino acid residue at position 75 with respect to the wild-type Ras protein is mutated;

(h) a peptide comprising at least from positions 73-81 of a Ras protein, wherein the amino acid residue at position 77 with respect to the wild-type Ras protein is mutated; and

(i) a peptide comprising at least from positions 74-82 of a Ras protein, wherein the amino acid residue at position 78 with respect to the wild-type Ras protein is mutated.

6. The isolated nucleic acid molecule of Claim 1, wherein the nucleic acid sequence encodes a fusion protein comprising the amino acid sequence of SEQ ID NO:14 or SEQ ID NO: 15 or an amino acid sequence that is at least 95% identical to SEQ ID NO: 14 or SEQ ID NO:15.

7. An isolated nucleic acid molecule having a nucleic acid sequence that is fully complementary to the nucleic acid sequence of any one of Claims 1 to 6.

8. A recombinant nucleic acid molecule comprising the isolated nucleic acid molecule of any one of Claims 1 to 6, operatively linked to at least one expression control sequence.

9. A recombinant cell that has been transfected with the recombinant nucleic acid molecule of Claim 8.

10. The recombinant cell of Claim 9, wherein the cell is a yeast.

11. An isolated protein or peptide encoded by the isolated nucleic acid molecule of any one of Claims 1 to 6.

12. A vaccine comprising the nucleic acid molecule of any one of Claims 1 to 6, or the protein or peptide of Claim 11.

13. The vaccine of Claim 12, wherein the vaccine further comprises a yeast vehicle.

14. The vaccine of Claim 13, wherein the yeast vehicle recombinantly expresses the protein or peptide.

15. A vaccine comprising:

(a) a yeast vehicle; and

(b) a fusion protein comprising a mutant Ras protein, wherein the protein contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 76 is mutated as compared to the wild-type protein, wherein expression of the fusion protein is under the control of the *Cupl* promoter, and wherein the fusion protein is expressed by the yeast vehicle;

wherein the fusion protein comprises the following proteins fused in frame:

i) a mutant Ras protein, wherein the protein contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with a cysteine;

ii) a mutant Ras protein, wherein the protein contains the amino acid position 61 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamine at position 61 is substituted with an arginine;

iii) a mutant Ras protein, wherein the protein contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an aspartate;

iv) a mutant Ras protein, wherein the protein contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with a valine;

v) a mutant Ras protein, wherein the protein contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an arginine; and

vi) a mutant Ras protein, wherein the protein contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamate at position 76 is substituted with a glycine.

16. A vaccine comprising:

(a) a yeast vehicle; and

(b) a fusion protein comprising a mutant Ras protein, wherein the protein contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the amino acid at position 76 is mutated as compared to the wild-type protein, wherein expression of the fusion protein is under the control of the *Cupl* promoter, and wherein the fusion protein is expressed by the yeast vehicle; wherein the fusion protein comprises the following proteins fused in frame:

i) a mutant Ras protein, wherein the protein contains the amino acid position 12 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glycine at position 12 is substituted with an arginine;

ii) a mutant Ras protein, wherein the protein contains the amino acid position 76 with respect to a wild-type K-ras, N-ras or H-ras protein, and wherein the glutamate at position 76 is substituted with a glycine.

17. The vaccine of any one of Claims 13 to 16, wherein the yeast vehicle is a whole yeast.

18. The vaccine of Claim 17, wherein the whole yeast is killed.

19. The vaccine of any one of Claims 13 to 18, wherein the yeast vehicle is from *Saccharomyces.*

20. The vaccine of any one of Claims 13 to 19, wherein the yeast vehicle is from *Saccharomyces cerevisiae.*

21. An antibody or antigen binding fragment thereof that selectively binds to the isolated protein or peptide of Claim 11.

22. An aptamer that selectively binds to the isolated protein or peptide of Claim 11.

23. An siRNA molecule that catalyzes the selective cleavage of RNA transcribed by the nucleic acid molecule of any one of Claims 1 to 6.

24. A ribozyme that selectively catalyzes the inactivation of the nucleic acid molecule of any one of Claims 1 to 6.

25. Use of the nucleic acid molecule of any one of Claims 1 to 6, the protein or peptide of Claim 11, the vaccine of any one of Claims 12 to 20, the aptamer of Claim 22, the siRNA of Claim 23, or the ribozyme of Claim 24, in the preparation of a composition for the prevention or treatment of cancer.

26. Use of the nucleic acid molecule of any one of Claims 1 to 7, the protein or peptide of Claim 11, or the antibody or antigen binding fragment thereof of Claim 21 in the preparation of a biomarker product for a diagnostic assay for cancer.

27. A method for identifying a compound for preventing or treating cancer, comprising identifying an inhibitor of a target Ras protein or a nucleic acid molecule encoding the target Ras protein, wherein the target Ras protein comprises a mutation at position 76 relative to a wild-type Ras protein.

28. A method for identifying a compound for preventing or treating cancer, comprising identifying a compound that triggers GTP hydrolysis in a cell expressing a target mutated Ras protein, but not in a cell expressing a wild-type Ras protein, wherein the target mutated Ras protein comprises a mutation at position 76 relative to a wild-type Ras protein.

29. A kit for detecting the presence or absence of a biomarker which is a mutant Ras protein having a mutation at position 76 with respect to the wild-type Ras amino acid sequence or a *ras* gene encoding said protein, the kit comprising the nucleic acid molecule of any one of Claims 1 to 7, the protein or peptide of Claim 11, or the antibody or antigen binding fragment thereof of Claim 21, or the aptamer of Claim 22.