

CLAIMS

1. A method for diagnosing an abnormal prostate state in a subject comprising:
 - (1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3 in a biological sample from the subject; and
 - (2) comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a normal control sample, wherein an altered level of the one or more prostate cancer related markers in the biological sample relative to the normal control sample is indicative of an abnormal prostate state in the subject.
2. The method of claim 1, wherein the one or more prostate cancer related markers is selected from the group consisting of filamin B, LY9, and keratin 19.
3. The method of claim 1 or 2, wherein an increased level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample is indicative of an abnormal prostate state in the subject.
4. The method of claim 1 or 2, wherein no increase in the detected level of each of the one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample is indicative of a normal prostate state in the subject.
5. The method of any one of claims 1-4, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.
6. The method of claim 5, further comprising comparing the level of PSA in the biological sample to the level of PSA in a normal control sample.
7. The method of claim 6, wherein an increase in the level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample, in combination with

an increase in the level of PSA in the biological sample relative to the level of PSA in the normal control sample is indicative of an abnormal prostate state in the subject.

8. The method of claim 7, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample, in combination with a decreased or normal level of PSA in the biological sample as compared to the level of PSA in the normal control sample, is indicative of a normal prostate state in the subject.

9. The method of any one of claims 2-8, wherein the one or more prostate cancer markers selected from the group consisting of filamin B, LY9 and keratin 19 is: filamin B; LY9; keratin 19; filamin B and LY9; filamin B and keratin 19; LY9 and keratin 19; or filamin B, LY9, and keratin 19.

10. The method of any one of claims 1-3, 5-7, and 9, wherein the abnormal prostate state is prostate cancer.

11. The method of claim 10, wherein the prostate cancer is androgen-dependent prostate cancer .

12. The method of claim 10, wherein the prostate cancer is androgen-independent prostate cancer.

13. The method of claim 10, wherein the prostate cancer is aggressive prostate cancer.

14. The method of claim 10, wherein the prostate cancer is non-aggressive prostate cancer.

15. The method of any one of claims 1-3, 5-7, and 9, wherein the abnormal prostate state is benign prostate hyperplasia.

16. A method for identifying a subject as being at increased risk for developing prostate cancer, the method comprising:

(1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3 in a biological sample from the subject; and

(2) comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a normal control sample, wherein an altered level of the one or more prostate cancer related markers in the biological sample relative to the normal control sample is indicative of an increased risk for developing prostate cancer in the subject.

17. The method of claim 16, wherein the one or more prostate cancer related markers is selected from the group consisting of filamin B, LY9, and keratin 19.

18. The method of claim 16 or 17, wherein an increased level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample is indicative of an increased risk for developing prostate cancer in the subject.

19. The method of claim 16 or 17, wherein no increase in the detected level of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample is indicative of no increased risk for developing prostate cancer in the subject.

20. The method of any one of claims 16-19, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.

21. The method of claim 20, further comprising comparing the level of PSA in the biological sample to the level of PSA in a normal control sample.

22. The method of claim 21, wherein an increase in the level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample, in combination with an increase in the level of PSA in the biological sample as compared to the level of PSA in the normal control sample is indicative of an increased risk for developing prostate cancer in the subject.

23. The method of claim 21, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the biological sample relative to the normal control sample, in combination with a decreased or normal level of PSA in the biological sample as compared to the level of PSA in the normal control sample, is indicative of no increased risk for developing prostate cancer in the subject.

24. The method of any one of claims 17-23, wherein the one or more prostate cancer related markers selected from the group consisting of filamin B, LY9 and keratin 19 is: filamin B; LY9; keratin 19; filamin B and LY9; filamin B and keratin 19; LY9 and keratin 19; or filamin B, LY9, and keratin 19.

25. The method of claims 1 or 16, wherein the one or more prostate cancer related markers is selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, and tubulin beta-3.

26. The method of claims 1 or 16, wherein the one or more prostate cancer related markers is selected from the group consisting of keratin 7, keratin 8, and keratin 15.

27. The method of claims 1 or 16, wherein the one or more prostate cancer related markers is selected from the group consisting of keratin 7 and keratin 15.

28. The method of any one of claims 25-27, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.

29. The method of claim 28, further comprising comparing the level of PSA in the biological sample to a level of PSA in a normal control sample.

30. The method of any one of the preceding claims, further comprising comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a control sample selected from the group consisting of: a sample obtained from the same subject at an earlier time point than the biological sample, a sample from a subject with benign prostatic hyperplasia (BPH), a sample from a subject with non-metastatic prostate cancer, a sample from a subject with metastatic prostate cancer, a sample from a subject with androgen sensitive prostate cancer, a sample

from a subject with androgen insensitive prostate cancer, a sample from a subject with aggressive prostate cancer, and a sample from a subject with non-aggressive prostate cancer.

31. The method of any one of claims 1-15, further comprising differentiating between two prostate cancer states selected from the group consisting of: normal prostate and prostate cancer, benign prostate hyperplasia and prostate cancer, benign prostate hyperplasia and normal prostate, androgen dependent and androgen independent prostate cancer, aggressive prostate cancer and non-aggressive prostate cancer, and metastatic prostate cancer and non-metastatic prostate cancer.

32. The method of any one of claims 1-3, 5-7, and 9-15, further comprising differentiating between any two or more of normal prostate, prostate cancer, benign prostate hyperplasia, androgen dependent prostate cancer, androgen independent prostate cancer, aggressive prostate cancer, non-aggressive prostate cancer, metastatic prostate cancer, and non-metastatic prostate cancer.

33. The method of any one of claims 1-15, further comprising detecting the size of the prostate tumor in the subject.

34. The method of any one of the preceding claims, further comprising obtaining a sample from a subject.

35. The method of any one of claims 1-15, wherein the method further comprises selecting a subject who has or is suspected of having prostate cancer.

36. The method of any one of claims 1-3, 5-7, and 9-15, wherein the method further comprises selecting a treatment regimen for the subject based on the level of the one or more prostate cancer markers.

37. The method of any one of claims 1-3, 5-7, and 9-15, wherein the method further comprises treating the subject with a treatment regimen comprising one or more treatments selected from the group consisting of surgery, radiation, hormone therapy, antibody therapy, growth factor therapy, cytokine therapy, and chemotherapy.

38. A method for monitoring prostate cancer in a subject, the method comprising

(1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3 in a first biological sample obtained at a first time from a subject having prostate cancer;

(2) determining a level of expression of the one or more prostate cancer related markers in a second biological sample obtained from the subject at a second time, wherein the second time is later than the first time; and

(3) comparing the level of the one or more prostate cancer related markers in the second sample with the level of the one or more prostate cancer related markers in the first sample, wherein a change in the level of the one or more prostate cancer related markers in the second sample as compared to the first sample is indicative of a change in prostate cancer status in the subject.

39. The method of claim 38, wherein the subject is actively treated for prostate cancer prior to obtaining the second sample.

40. The method of claim 38, wherein the subject is not actively treated for prostate cancer prior to obtaining the second sample.

41. The method of any one of claims 38-40, wherein the one or more prostate cancer related markers is selected from the group consisting of filamin B, LY9, and keratin 19.

42. The method of any one of claims 38-41, wherein an increased level of one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the second biological sample as compared to the first biological sample is indicative of progression of the prostate cancer in the subject.

43. The method of any of claims 38-41, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the second biological sample as compared to the first biological sample is indicative of non-progression of the prostate cancer in the subject.

44. The method of any one of claims 38-41, further comprising determining the level of prostate specific antigen (PSA) in the first biological sample and the second biological sample.

45. The method of claim 44, further comprising comparing the level of PSA in the second biological sample to the level of PSA in the first biological sample.

46. The method of claim 45, wherein an increased level of the one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the second biological sample relative to the level of the one or more prostate cancer related markers in the first biological sample, in combination with an increase in the level of PSA in the second biological sample relative to the level of PSA in the first biological sample, is indicative of progression of the prostate cancer in the subject.

47. The method of claim 45, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 in the second biological sample relative to the level of the one or more prostate cancer related markers in the first biological sample, in combination with a decreased or same level of PSA in the second biological sample relative to the level of PSA in the first biological sample, is indicative of non-progression of the prostate cancer in the subject.

48. The method of any one of claims 38-47, wherein the one or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19 is: filamin B; LY9; keratin 19; filamin B and LY9; filamin B and keratin 19; LY9 and keratin 19; or filamin B, LY9, and keratin 19.

49. The method of any one of claims 38-40, wherein the one or more prostate cancer markers is selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, and tubulin beta-3.

50. The method of any one of claims 38-40, wherein the one or more prostate cancer related markers is selected from the group consisting of keratin 7, keratin 8, and keratin 15.

51. The method of any one of claims 38-40, wherein the one or more prostate cancer related markers is selected from the group consisting of keratin 7 and keratin 15.
52. The method of any one of claims 49-51, further comprising determining the level of prostate specific antigen (PSA) in the first biological sample and the second biological sample.
53. The method of claim 52, further comprising comparing the level of PSA in the second biological sample to the level of PSA in the first biological sample.
54. The method of any one of claims 38-53, further comprising comparing the level of the one or more prostate cancer related markers in the first biological sample or the second biological sample with the level of the one or more prostate cancer related markers in a control sample selected from the group consisting of: a normal control sample, a sample from a subject with benign prostatic hyperplasia (BPH), a sample from a subject with non-metastatic prostate cancer, a sample from a subject with metastatic prostate cancer, a sample from a subject with androgen sensitive prostate cancer, a sample from a subject with androgen insensitive prostate cancer, a sample from a subject with aggressive prostate cancer, and a sample from a subject with non-aggressive prostate cancer.
55. The method of any one of claims 38-54, further comprising detecting the size of the prostate tumor in the subject.
56. The method of any one of claims 38-54, further comprising obtaining a first sample and a second sample from the subject.
57. The method of claim 42, wherein the method further comprises selecting a different treatment regimen for the subject based on progression of the prostate cancer in the subject.
58. The method of claim 43, wherein the method further comprises maintaining a treatment regimen for the subject based on non-progression of the prostate cancer in the subject.
59. The method of claim 57 or 58, wherein the treatment regimen comprises one or more treatments selected from the group consisting of: surgery, radiation, hormone therapy, antibody therapy, growth factor therapy, cytokine therapy, and chemotherapy.

60. The method of claim 43, wherein the method further comprises withholding an active treatment of the prostate cancer in the subject based on non-progression of the prostate cancer in the subject.

61. The method of claim 60, wherein the active treatment comprises one or more treatments selected from the group consisting of: surgery, radiation, hormone therapy, antibody therapy, growth factor therapy, cytokine therapy, and chemotherapy.

62. A method for detecting a set of prostate cancer related markers, the method comprising:

(1) analyzing a biological sample from a subject for a level of two or more prostate cancer related markers of a set of prostate cancer related markers, wherein the set of prostate cancer related markers comprises filamin B, LY9, keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3;

(2) detecting each of the two or more prostate specific makers in the biological sample, thereby detecting the set of prostate cancer related biomarkers.

63. The method of claim 62, wherein the set of prostate cancer related markers comprises filamin B, LY9, and keratin 19.

64. The method of claim 63, wherein the two or more prostate cancer related markers of the set of prostate cancer related markers is: filamin B and LY9; filamin B and keratin 19; LY9 and keratin 19; or filamin B, LY9, and keratin 19.

65. The method of claim 62, wherein the set of prostate cancer related markers comprises keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, and tubulin beta-3.

66. The method of claim 62, wherein the set of prostate cancer related markers comprises keratin 7, keratin 8, and keratin 15.

67. The method of claim 62, wherein the set of prostate cancer related markers comprises keratin 7 and keratin 15.

68. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises isolating a component of the biological sample.

69. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises labeling a component of the biological sample.

70. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises processing the biological sample.

71. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises contacting a prostate cancer related marker to be detected with a prostate cancer related marker binding agent.

72. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises forming a complex between a prostate cancer related marker to be detected and a prostate cancer related marker binding agent.

73. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises contacting each of the one or more prostate cancer related markers with a prostate cancer related marker binding agent.

74. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises forming a complex between each of the one or more prostate cancer related markers and a prostate cancer related marker binding agent.

75. The method of any one of claims 1-67, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises attaching a prostate cancer related marker to be detected to a solid surface.

76. A panel of reagents for use in a detection method, the panel comprising at least two detection reagents, wherein each detection reagent is specific for the detection of at least one prostate cancer related marker of a set of prostate cancer related markers, wherein the set of prostate cancer specific markers comprises two or more prostate cancer related

markers selected from the group consisting of filamin B, LY9, keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, tubulin-beta 3 and PSA.

77. The panel of claim 76, wherein the set of prostate cancer specific markers comprises two or more prostate cancer related markers selected from the group consisting of filamin B, LY9, and keratin 19.

78. The panel of claim 77, wherein the two or more prostate cancer related markers is: filamin B and LY9; filamin B and keratin 19; LY9 and keratin 19; or filamin B, LY9, and keratin 19.

79. The panel of claim 76, wherein the set of prostate cancer specific markers comprises two or more prostate cancer related markers selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, and tubulin beta-3.

80. The panel of claim 76, wherein the set of prostate cancer specific markers comprises two or more prostate cancer related markers selected from the group consisting of keratin 7, keratin 8, and keratin 15.

81. The panel of claim 76, wherein the set of prostate cancer specific markers comprises keratin 7 and keratin 15.

82. The panel of any one of claims 77-81, wherein the set of prostate cancer specific markers further comprises PSA.

83. The panel of claim 82, wherein the panel of reagents comprises a detection reagent specific for the detection of PSA.

84. Use of the panel of any one of claims 76-83 in the method of any one of claims 1-75.

85. A kit for the diagnosis, monitoring, or characterization of an abnormal prostate state, comprising:

at least one reagent specific for the detection of a level of at least one prostate cancer related marker selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3, filamin B, and LY9.

86. The kit of claim 85, wherein the kit further comprises instructions for the diagnosis, monitoring, or characterization of an abnormal prostate state based on the level of the at least one prostate cancer related marker selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3, filamin B, and LY9 detected.

87. The kit of claim 85 or 86, wherein the kit further comprises instructions to detect the level of PSA in a sample in which the at least one prostate cancer related marker selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, and tubulin-beta 3, filamin B, and LY9 is detected.

88. The kit of any one of claims 85-87, further comprising at least one reagent specific for the detection of a level of PSA.

89. A kit comprising at least one reagent specific for the detection of a level of at least one prostate cancer related marker selected from the group consisting of keratin 4, keratin 7, keratin 8, keratin 15, keratin 18, keratin 19, tubulin-beta 3, filamin B, and LY9 and at least one reagent specific for the detection of a level of PSA.

CLAIMS

1. A method for diagnosing an abnormal prostate state in a subject comprising:

(1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B, and keratin 19 in a biological sample from the subject; and

(2) comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a non-cancer control sample, wherein an increased level of the one or more prostate cancer related markers in the biological sample relative to the non-cancer control sample is indicative of an abnormal prostate state in the subject.

2. The method of claim 1, wherein no increase in the detected level of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B and keratin 19 in the biological sample relative to the non-cancer control sample is indicative of a normal prostate state in the subject.

3. The method of claim 1 or claim 2, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.

4. The method of claim 3, further comprising comparing the level of PSA in the biological sample to the level of PSA in a non-cancer control sample.

5. The method of claim 4, wherein an increase in the level of one or more prostate cancer related markers selected from the group consisting of filamin B and keratin 19 in the biological sample relative to the non-cancer control sample, in combination with an increase in the level of PSA in the biological sample relative to the level of PSA in the non-cancer control sample is indicative of an abnormal prostate state in the subject.

6. The method of claim 5, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B and keratin 19 in the biological sample relative to the non-cancer control sample, in combination with a decreased or normal level of PSA in the biological sample as compared to the level of PSA in the non-cancer control sample, is indicative of a normal prostate state in the subject.

7. The method of any one of claims 1-6, wherein the one or more prostate cancer markers selected from the group consisting of filamin B and keratin 19 is: filamin B; keratin 19; or filamin B and keratin 19.
8. The method of any one of claims 1, 3-5, and 7, wherein the abnormal prostate state is prostate cancer.
9. The method of claim 8, wherein the prostate cancer is androgen-dependent prostate cancer.
10. The method of claim 8, wherein the prostate cancer is androgen-independent prostate cancer.
11. The method of claim 8, wherein the prostate cancer is aggressive prostate cancer.
12. The method of claim 8, wherein the prostate cancer is non-aggressive prostate cancer.
13. The method of any one of claims 1, 3-5, and 7, wherein the abnormal prostate state is benign prostate hyperplasia.
14. A method for identifying a subject as being at increased risk for developing prostate cancer, the method comprising:
 - (1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B and keratin 19 in a biological sample from the subject; and
 - (2) comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a non-cancer control sample, wherein an increased-level of the one or more prostate cancer related markers in the biological sample relative to the non-cancer control sample is indicative of an increased risk for developing prostate cancer in the subject.
15. The method of claim 14, wherein no increase in the detected level of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B and keratin 19 in the biological sample relative to the non-cancer control sample is indicative of no increased risk for developing prostate cancer in the subject.

16. The method of claim 14 or claim 15, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.

17. The method of claim 16, further comprising comparing the level of PSA in the biological sample to the level of PSA in a non-cancer control sample.

18. The method of claim 17, wherein an increase in the level of one or more prostate cancer related markers selected from the group consisting of filamin B and keratin 19 in the biological sample relative to the non-cancer control sample, in combination with an increase in the level of PSA in the biological sample as compared to the level of PSA in the non-cancer control sample is indicative of an increased risk for developing prostate cancer in the subject.

19. The method of claim 17, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B, and keratin 19 in the biological sample relative to the non-cancer control sample, in combination with a decreased or non-cancer level of PSA in the biological sample as compared to the level of PSA in the non-cancer control sample, is indicative of no increased risk for developing prostate cancer in the subject.

20. The method of any one of claims 12 or 15-19, wherein the one or more prostate cancer related markers selected from the group consisting of filamin B and keratin 19 is: filamin B; keratin 19; or filamin B and keratin 19.

21. The method of any one of claims 14 -20, further comprising detecting the level of prostate specific antigen (PSA) in the biological sample.

22. The method of claim 21, further comprising comparing the level of PSA in the biological sample to a level of PSA in a non-cancer control sample.

23. The method of any one of the preceding claims, further comprising comparing the level of the one or more prostate cancer related markers in the biological sample with the level of the one or more prostate cancer related markers in a control sample selected from the group consisting of: a sample obtained from the same subject at an earlier time point than the biological sample, a sample from a subject with benign prostatic hyperplasia (BPH), a sample

from a subject with non-metastatic prostate cancer, a sample from a subject with metastatic prostate cancer, a sample from a subject with androgen sensitive prostate cancer, a sample from a subject with androgen insensitive prostate cancer, a sample from a subject with aggressive prostate cancer, and a sample from a subject with non-aggressive prostate cancer.

24. The method of any one of claims 1-13, further comprising differentiating between two prostate cancer states selected from the group consisting of: normal prostate and prostate cancer, benign prostate hyperplasia and prostate cancer, benign prostate hyperplasia and normal prostate, androgen dependent and androgen independent prostate cancer, aggressive prostate cancer and non-aggressive prostate cancer, and metastatic prostate cancer and non-metastatic prostate cancer.

25. The method of any one of claims 1, 3-5, and 7-13, further comprising differentiating between any two or more of normal prostate, prostate cancer, benign prostate hyperplasia, androgen dependent prostate cancer, androgen independent prostate cancer, aggressive prostate cancer, non-aggressive prostate cancer, metastatic prostate cancer, and non-metastatic prostate cancer.

26. The method of any one of claims 1-13, further comprising detecting the size of the prostate tumor in the subject.

27. The method of any one of claims 1-13, wherein the method further comprises selecting a subject who has or is suspected of having prostate cancer.

28. The method of any one of claims 1, 3-5, and 7-13, wherein the method further comprises selecting a treatment regimen for the subject based on the level of the one or more prostate cancer markers.

29. The method of any one of claims 1, 3-5, and 7-13, wherein the method further comprises treating the subject with a treatment regimen comprising one or more treatments selected from the group consisting of surgery, radiation, hormone therapy, antibody therapy, growth factor therapy, cytokine therapy, and chemotherapy.

30. A method for monitoring prostate cancer in a subject, the method comprising

(1) determining a level of one or more prostate cancer related markers selected from the group consisting of filamin B and keratin 19 in a first biological sample obtained at a first time from a subject having prostate cancer;

(2) determining a level of expression of the one or more prostate cancer related markers in a second biological sample obtained from the subject at a second time, wherein the second time is later than the first time; and

(3) comparing the level of the one or more prostate cancer related markers in the second sample with the level of the one or more prostate cancer related markers in the first sample, wherein an increase in the level of the one or more prostate cancer related markers in the second sample as compared to the first sample is indicative of progression of the prostate cancer in the subject.

31. The method of claim 30, wherein the subject is actively treated for prostate cancer prior to obtaining the second sample.

32. The method of claim 30, wherein the subject is not actively treated for prostate cancer prior to obtaining the second sample.

33. The method of any of claims 30-32, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B and keratin 19 in the second biological sample as compared to the first biological sample is indicative of non-progression of the prostate cancer in the subject.

34. The method of any one of claims 30-32, further comprising determining the level of prostate specific antigen (PSA) in the first biological sample and the second biological sample.

35. The method of claim 34, further comprising comparing the level of PSA in the second biological sample to the level of PSA in the first biological sample.

36. The method of claim 35, wherein an increased level of the one or more prostate cancer related markers selected from the group consisting of filamin B, and keratin 19 in the second biological sample relative to the level of the one or more prostate cancer related markers in the first biological sample, in combination with an increase in the level of PSA in the second biological sample relative to the level of PSA in the first biological sample, is indicative of

progression of the prostate cancer in the subject.

37. The method of claim 35, wherein no increase in the detected level of expression of each of the one or more prostate-cancer related markers selected from the group consisting of filamin B and keratin 19 in the second biological sample relative to the level of the one or more prostate cancer related markers in the first biological sample, in combination with a decreased or same level of PSA in the second biological sample relative to the level of PSA in the first biological sample, is indicative of non-progression of the prostate cancer in the subject.

38. The method of any one of claims 30-37, further comprising determining the level of prostate specific antigen (PSA) in the first biological sample and the second biological sample.

39. The method of claim 38, further comprising comparing the level of PSA in the second biological sample to the level of PSA in the first biological sample.

40. The method of any one of claims 30-39, further comprising comparing the level of the one or more prostate cancer related markers in the first biological sample or the second biological sample with the level of the one or more prostate cancer related markers in a control sample selected from the group consisting of: a non-cancer control sample, a sample from a subject with benign prostatic hyperplasia (BPH), a sample from a subject with non-metastatic prostate cancer, a sample from a subject with metastatic prostate cancer, a sample from a subject with androgen sensitive prostate cancer, a sample from a subject with androgen insensitive prostate cancer, a sample from a subject with aggressive prostate cancer, and a sample from a subject with non-aggressive prostate cancer.

41. The method of any one of claims 30-39, further comprising detecting the size of the prostate tumor in the subject.

42. The method of claim 33, wherein the method further comprises withholding an active treatment of the prostate cancer in the subject based on non-progression of the prostate cancer in the subject.

43. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises isolating a component of the biological sample.

44. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises labeling a component of the biological sample.

45. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises processing the biological sample.

46. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises contacting a prostate cancer related marker to be detected with a prostate cancer related marker binding agent.

47. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises forming a complex between a prostate cancer related marker to be detected and a prostate cancer related marker binding agent.

48. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises contacting each of the one or more prostate cancer related markers with a prostate cancer related marker binding agent.

49. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises forming a complex between each of the one or more prostate cancer related markers and a prostate cancer related marker binding agent.

50. The method of any one of the preceding claims, wherein detecting or determining a level of one or more prostate cancer related markers in a biological sample comprises attaching a

prostate cancer related marker to be detected to a solid surface.

51. A panel of reagents for use in a detection method, the panel comprising at least two detection reagents, wherein each detection reagent is specific for the detection of at least one prostate cancer related marker of a set of prostate cancer related markers, wherein the set of prostate cancer specific markers comprises two or more prostate cancer related markers selected from the group consisting of filamin B, LY9 and keratin 19 and PSA.

52. Use of the panel of claim 51 in the method of any one of claims 1-50.

53. A kit for the diagnosis, monitoring, or characterization of an abnormal prostate state, comprising:

at least reagents specific for the detection of a level of at least two prostate cancer related markers selected from the group consisting of keratin 19, filamin B, and LY9.

54. The kit of claim 53, further comprising at least one reagent specific for the detection of a level of PSA.