

What is claimed is:

1. A method for screening a subject for the risk of a cardiovascular event (CV) event comprising:
 - (a) forming a biomarker panel comprising N protein biomarkers selected from N-terminal pro-BNP, sTREM-1, MMP-12, Antithrombin III, GPR56, Gelsolin, ST4S6, CHSTC, FSH, IL-1 sRII, PLXB2, SAP, and TFPI, wherein N is an integer from 3 to 13; and
 - (b) detecting the level of each of the N biomarkers of the panel in a sample from the subject.
2. A method for screening a subject for the risk of a cardiovascular event (CV) event comprising:
 - (a) forming a biomarker panel comprising N protein biomarkers selected from BNP, sTREM-1, MMP-12, SVEP1, ARL11, ANTR2, CA125, GOLM1, PPR1A, ERBB3, suPAR, GDF-11/8, JAM-B, ATS13, Spondin-1, NCAM-120, TFF3, SIRT2, ANP, NELL1, LRP11, NDST1, PTPRJ, CILP2, CA2D3, ITI heavy chain H2, and IGDC4, wherein N is an integer from 8 to 27; and
 - (b) detecting the level of each of the N biomarkers of the panel in a sample from the subject.
3. A method for predicting the likelihood that a subject will have a CV event comprising
 - (a) forming a biomarker panel comprising N protein biomarkers selected from BNP, sTREM-1, MMP-12, Antithrombin III, GPR56, Gelsolin, ST4S6, CHSTC, FSH, IL-1 sRII, PLXB2, SAP, and TFPI, wherein N is an integer from 3 to 13; and
 - (b) detecting the level of each of the N biomarkers of the panel in a sample from the subject.
4. A method for predicting the likelihood that a subject will have a CV event comprising
 - (a) forming a biomarker panel comprising N protein biomarkers selected from BNP, sTREM-1, MMP-12, SVEP1, ARL11, ANTR2, CA125, GOLM1, PPR1A, ERBB3, suPAR, GDF-11/8, JAM-B, ATS13, Spondin-1, NCAM-120,

TFF3, SIRT2, ANP, NELL1, LRP11, NDST1, PTPRJ, CILP2, CA2D3, ITI heavy chain H2, and IGDC4, wherein N is an integer from 8 to 27; and

- (b) detecting the level of each of the N biomarkers of the panel in a sample from the subject.

5. The method of claim 1 or 3, wherein N is at least 4, at least 5, at least 6, at least 7, at least 8, at least 9, at least 10, at least 11, at least 12, or 13.

6. The method of claim 2 or 4, wherein N is at least 9, at least 10, at least 11, at least 12, at least 13, at least 14, at least 15, at least 16, at least 17, at least 18, at least 19, at least 20, at least 21, at least 22, at least 23, at least 24, at least 25, at least 26, or 27.

7. The method of any one of claims 1-6, wherein the risk or likelihood of the subject having a CV event within 4 years is high if the levels of at least 5, at least 6, at least 7, at least 8, at least 9, at least 10, at least 11, at least 12, or at least 13 biomarkers of the set of biomarkers are each abnormal relative to a control level of the respective biomarker.

8. The method of any one of claims 1-7, wherein the CV event is myocardial infarction, stroke, trans-ischemic attack, hospitalization for heart failure, or death.

9. The method of any one of claims 2, 4, or 6-8 wherein the subject has coronary artery disease.

10. The method of any one of claims 1, 3, 5, 7, or 8, wherein the subject does not have a history of CV events.

11. The method of any one of claims 2, 4, or 6-9, wherein the subject has had at least one CV event.

12. The method of any one of the preceding claims, wherein the sample is selected from a blood sample, a serum sample, a plasma sample, and a urine sample.

13. The method of claim 12, wherein the sample is a blood sample.

14. The method of any one of the preceding claims, wherein the method is performed *in vitro*.

15. The method of any one of claims 1, 3, 5, 7, 8, 10, or 12-14, wherein the method comprises contacting biomarkers of the sample from the subject with a set of capture reagents, wherein each capture reagent of the set of capture reagents specifically binds to a different biomarker being detected.

16. The method of any one of claims 2, 4, 6-9, or 11-14, wherein the method comprises contacting biomarkers of the sample from the subject with a set of capture reagents, wherein each capture reagent of the set of capture reagents specifically binds to a different biomarker being detected.

17. The method of claim 15 or 16, wherein each capture reagent is an antibody or an aptamer.

18. The method of claim 17, wherein each biomarker capture reagent is an aptamer.

19. The method of claim 18, wherein at least one aptamer is a slow off-rate aptamer.

20. The method of claim 19, wherein at least one slow off-rate aptamer comprises at least one, at least two, at least three, at least four, at least five, at least six, at least seven, at least eight, at least nine, or at least 10 nucleotides with modifications.

21. The method of claim 19 or claim 20, wherein each slow off-rate aptamer binds to its target protein with an off rate ($t_{1/2}$) of ≥ 30 minutes, ≥ 60 minutes, ≥ 90 minutes, ≥ 120 minutes, ≥ 150 minutes, ≥ 180 minutes, ≥ 210 minutes, or ≥ 240 minutes.

22. The method of any one of claims 15-21, wherein one capture reagent specifically binds to sTREM1.

23. The method of any one of claims 15-22, wherein one capture reagent specifically binds to MMP-12.

24. The method of any one of claims 15 or 17-23, wherein one capture reagent specifically binds to N-terminal pro-BNP.

25. The method of any one of claims 15 or 17-24, wherein one capture reagent specifically binds to Antithrombin III.

26. The method of any one of claims 15 or 17-25, wherein one capture reagent specifically binds to GPR56.

27. The method of any one of claims 15 or 17-26, wherein one capture reagent specifically binds to Gelsolin.

28. The method of any one of claims 15 or 17-27, wherein one capture reagent specifically binds to ST4S6.

29. The method of any one of claims 15 or 17-28, wherein one capture reagent specifically binds to CHSTC.

30. The method of any one of claims 15 or 17-29, wherein one capture reagent specifically binds to FSH.
31. The method of any one of claims 15 or 17-30, wherein one capture reagent specifically binds to IL-1 sRII.
32. The method of any one of claims 15 or 17-31, wherein one capture reagent specifically binds to PLXB2.
33. The method of any one of claims 15 or 17-32, wherein one capture reagent specifically binds to SAP.
34. The method of any one of claims 15 or 17-33, wherein one capture reagent specifically binds to TFPI.
35. The method of any one of claims 1-34, wherein the set of biomarkers comprises at least 13 biomarkers.
36. The method of any one of claims 1-34, wherein the set of biomarkers consists of 13 biomarkers.
37. The method of any one of claims 16-23, wherein one capture reagent specifically binds to SVEP1.
38. The method of any one of claims 16-23 or 37, wherein one capture reagent specifically binds to ARL11.
39. The method of any one of claims 16-23, 37, or 38, wherein one capture reagent specifically binds to ANTR2.
40. The method of any one of claims 16-23 or 37-39, wherein one capture reagent specifically binds to CA125.
41. The method of any one of claims 16-23 or 37-40, wherein one capture reagent specifically binds to GOLM1.
42. The method of any one of claims 16-23 or 37-41, wherein one capture reagent specifically binds to PPR1A.
43. The method of any one of claims 16-23 or 37-42, wherein one capture reagent specifically binds to ERBB3.
44. The method of any one of claims 16-23 or 37-43, wherein one capture reagent specifically binds to suPAR.

45. The method of any one of claims 16-23 or 37-44, wherein one capture reagent specifically binds to GDF-11/8.

46. The method of any one of claims 16-23 or 37-45, wherein one capture reagent specifically binds to JAM-B.

47. The method of any one of claims 16-23 or 37-46, wherein one capture reagent specifically binds to ATS13.

48. The method of any one of claims 16-23 or 37-47, wherein one capture reagent specifically binds to Spondin-1.

49. The method of any one of claims 16-23 or 37-48, wherein one capture reagent specifically binds to NCAM-120.

50. The method of any one of claims 16-23 or 37-49, wherein one capture reagent specifically binds to TFF3.

51. The method of any one of claims 16-23 or 37-50, wherein one capture reagent specifically binds to SIRT2.

52. The method of any one of claims 16-23 or 37-51, wherein one capture reagent specifically binds to ANP.

53. The method of any one of claims 16-23 or 37-52, wherein one capture reagent specifically binds to NELL1.

54. The method of any one of claims 16-23 or 37-53, wherein one capture reagent specifically binds to LRP11.

55. The method of any one of claims 16-23 or 37-54, wherein one capture reagent specifically binds to NDST1.

56. The method of any one of claims 16-23 or 37-55, wherein one capture reagent specifically binds to PTPRJ.

57. The method of any one of claims 16-23 or 37-56, wherein one capture reagent specifically binds to CILP2.

58. The method of any one of claims 16-23 or 37-57, wherein one capture reagent specifically binds CA2D3.

59. The method of any one of claims 16-23 or 37-58, wherein one capture reagent specifically binds to ITI heavy chain H2.

60. The method of any one of claims 16-23 or 37-59, wherein one capture reagent specifically binds to IGDC4.
61. The method of any one of claims 16-23 or 37-60, wherein one capture reagent specifically binds to BNP.
62. The method of any one of claims 2, 4, 6-9, 11-14, 16-23, or 37-61, wherein the set of biomarkers comprises at least 27 biomarkers.
63. The method of any one of claims 2, 4, 6-9, 11-14, 16-23, or 37-61, wherein the set of biomarkers consists of 27 biomarkers.
64. The method of any one of claims 2, 4, 6-9, 11-14, 16-23, or 37-63, wherein the subject has apparently stable cardiovascular disease.
65. The method of claim 64, wherein the apparently stable cardiovascular disease comprises a history of a myocardial infarction, stroke, heart failure, revascularization, abnormal stress test, imaging suggesting coronary heart disease, or abnormal coronary calcium score.
66. The method of claim 65, wherein the myocardial infarction or stroke occurred at least six months prior to the date the sample was taken from the subject.
67. The method of claim 65, wherein the abnormal stress test is a treadmill or nuclear medicine based test.
68. The method of claim 65, wherein the imaging suggesting coronary heart disease is an angiogram showing coronary artery stenosis of 50% or greater.
69. The method of any one of claims 1-68, wherein the subject is at least 40 years old.
70. The method of any one of claims 1-69, comprising determining the risk or likelihood of the subject having a cardiovascular event within four years from the date the sample was taken from the subject.
71. The method of claim 70, wherein the risk or likelihood of the subject having a cardiovascular event is within one, two, three, or four years from the date that sample was taken from the subject.
72. The method of claim 70 or 71, wherein the cardiovascular event is myocardial infarction, stroke, trans-ischemic attack, hospitalization for heart failure, or death due to cardiovascular disease.
73. The method of any one of claims 70-72, wherein the risk is determined as a quantitative probability.

74. The method of any one of claims 70-72, wherein the risk is determined as a qualitative level of risk.
75. The method of claim 74, wherein the qualitative level of risk is low, moderate, or high.
76. The method of any one of the preceding claims, wherein the risk or likelihood of a CV event is based on the biomarker levels and at least one item of additional biomedical information selected from
- a) information corresponding to the presence of cardiovascular risk factors selected from the group consisting of prior myocardial infarction, angiographic evidence of greater than 50% stenosis in one or more coronary vessels, exercise-induced ischemia by treadmill or nuclear testing or prior coronary revascularization,
 - b) information corresponding to physical descriptors of the subject,
 - c) information corresponding to a change in weight of the subject,
 - d) information corresponding to the ethnicity of the subject,
 - e) information corresponding to the gender of the subject,
 - f) information corresponding to the subject's smoking history,
 - g) information corresponding to the subject's alcohol use history,
 - h) information corresponding to the subject's occupational history,
 - i) information corresponding to the subject's family history of cardiovascular disease or other circulatory system conditions,
 - j) information corresponding to the presence or absence in the subject of at least one genetic marker correlating with a higher risk of cardiovascular disease in the subject or a family member of the subject,
 - k) information corresponding to clinical symptoms of the subject,
 - l) information corresponding to other laboratory tests,
 - m) information corresponding to gene expression values of the subject, and
 - n) information corresponding to the subject's consumption of known cardiovascular risk factors such as diet high in saturated fats, high salt, high cholesterol,
 - o) information corresponding to the subject's imaging results obtained by techniques selected from the group consisting of electrocardiogram, echocardiography, carotid ultrasound for intima-media thickness, flow mediated dilation, pulse wave velocity,

ankle-brachial index, stress echocardiography, myocardial perfusion imaging, coronary calcium by CT, high resolution CT angiography, MRI imaging, and other imaging modalities,

- p) information regarding the subject's medications,
- q) information corresponding to the age of the subject, and
- r) information regarding the subject's kidney function.

77. The method of claim 76, wherein the at least one item of additional biomedical information is information corresponding to the age of the subject.

78. The method of any one of the preceding claims, wherein the method comprises determining the risk or likelihood of a CV event for the purpose of determining a medical insurance premium or life insurance premium.

79. The method of claim 78, wherein the method further comprises determining coverage or premium for medical insurance or life insurance.

80. The method of any one of claims 1 to 79, wherein the method further comprises using information resulting from the method to predict and/or manage the utilization of medical resources.

81. The method of any one of claims 1 to 80, wherein the method further comprises using information resulting from the method to enable a decision to acquire or purchase a medical practice, hospital, or company.