CLAIMS

[Claim 1]. A method of screening for colorectal cancer, the method comprising determining the methylation status of at least one DMR of FGF14 and at least one DMR of ZNF492 in DNA of a human subject, and
diagnosing colorectal cancer in the subject.

[Claim 2]. An in vitro method of screening for colorectal cancer according to claim 1, comprising:
(a) determining the methylation status of at least one DMR of FGF14 and at least one DMR of ZNF492 in DNA of a human subject;
(b) comparing the data obtained with reference values obtained from healthy individuals; and
(c) diagnosing colorectal cancer in the subject if a hyper-methylation in the at least one DMR of FGF14 and the at least one DMR of ZNF492 is detected, as compared to the reference sample.

[Claim 3]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of LONRF2 and at least one DMR of PDGFD.

[Claim 4]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of ZNF471.

[Claim 5]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of ZNF471, and at least one DMR of PDGFD.

[Claim 6]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of ZNF471, at least one DMR of PDGFD, and at least one DMR of ADAMTS2.

[Claim 7]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of ZNF471, at least one DMR of PDGFD, at least one DMR of ADAMTS2, at least one DMR of ZNF492, and at least one DMR of ST6GALNAC5.

[Claim 8]. The method of claim 1 or 2, wherein the method comprises determining the methylation status of at least one DMR of ZNF471, at least one DMR of PDGFD, at least one DMR of ADAMTS2, at least one DMR of ZNF492, at least one DMR of ST6GALNAC5, at least one DMR of ZNF542, at least one DMR of LONRF2, at least one DMR of ZNF132, at least one DMR of CNRIP1, and at least one DMR of ALK.

[Claim 9]. The method of claim 1 or 2, wherein the DNA is isolated from blood, plasma, urine, saliva, or stool of the human subject.

[Claim 10]. The method of claim 1 or 2, wherein the DNA is cell-free DNA of the human subject.

[Claim 11]. The method of claim 1 or 2, wherein the method provides a sensitivity for colorectal cancer of at least 0.6.

[Claim 12]. The method of claim 1 or 2, wherein the method provides a specificity for colorectal cancer of at least 0.7.

[Claim 13]. The method of claim 1 or 2, wherein methylation status is determined using one or more members selected from the group consisting of methylation sensitive restriction enzyme quantitative polymerase chain reaction (MSRE-qPCR), Methylation-Specific PCR, Methylation Specific Nuclease-assisted Minor-allele Enrichment PCR, and next-generation sequencing.