

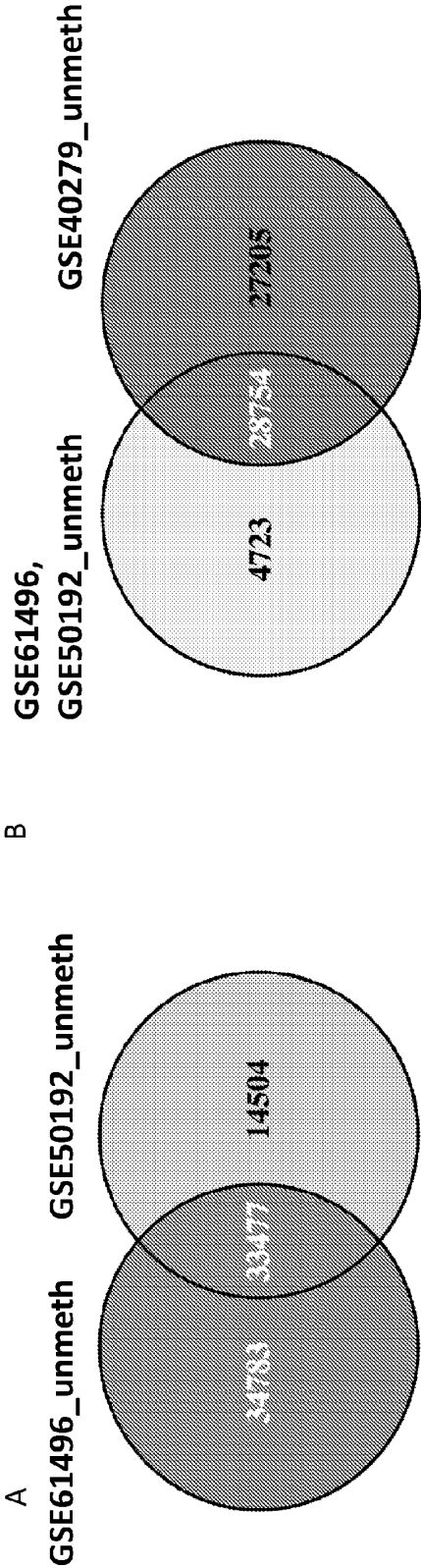


Figure 1.

ctDNA markers for HCC from Sun Yat Sen University Cancer hospital

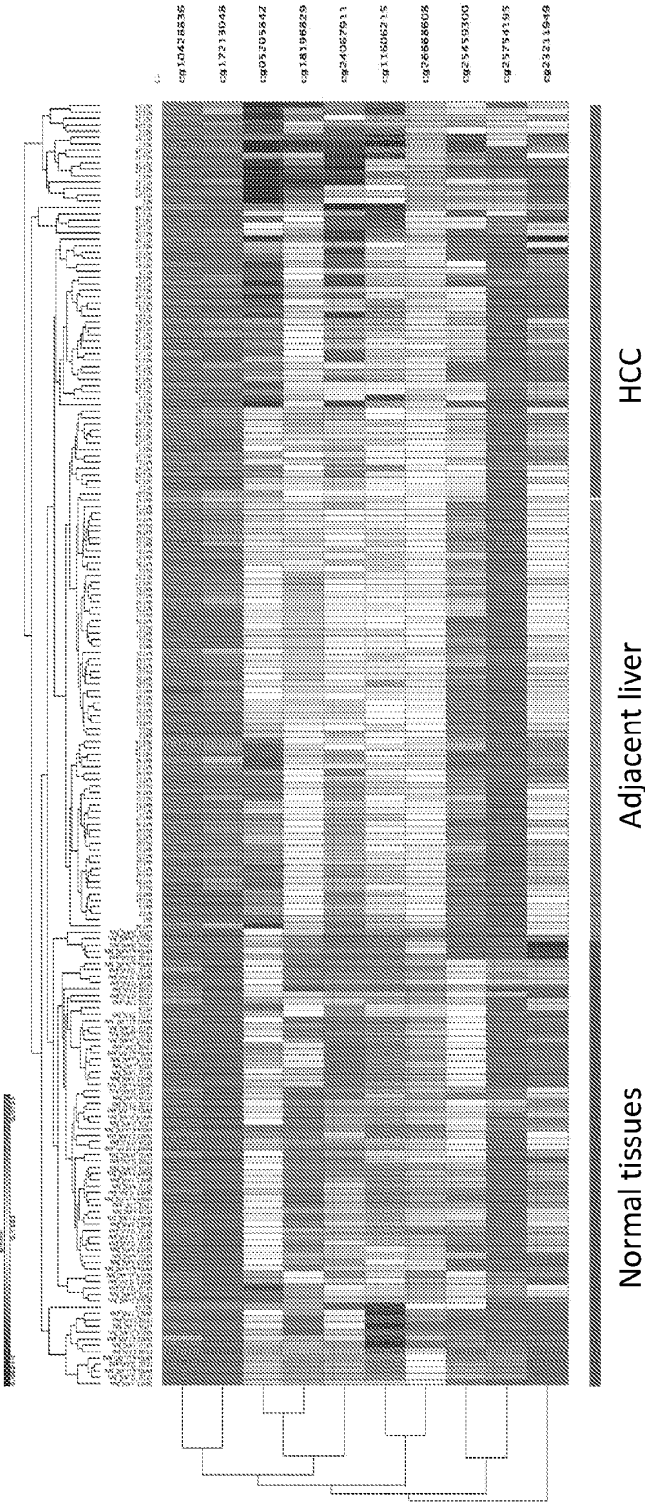
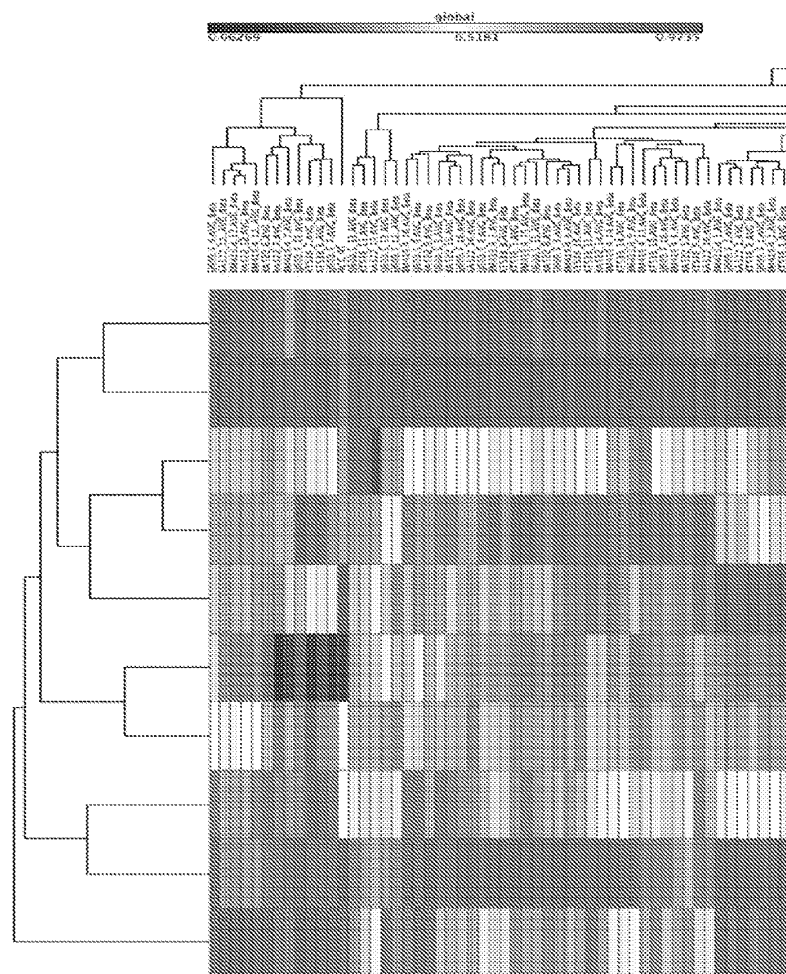
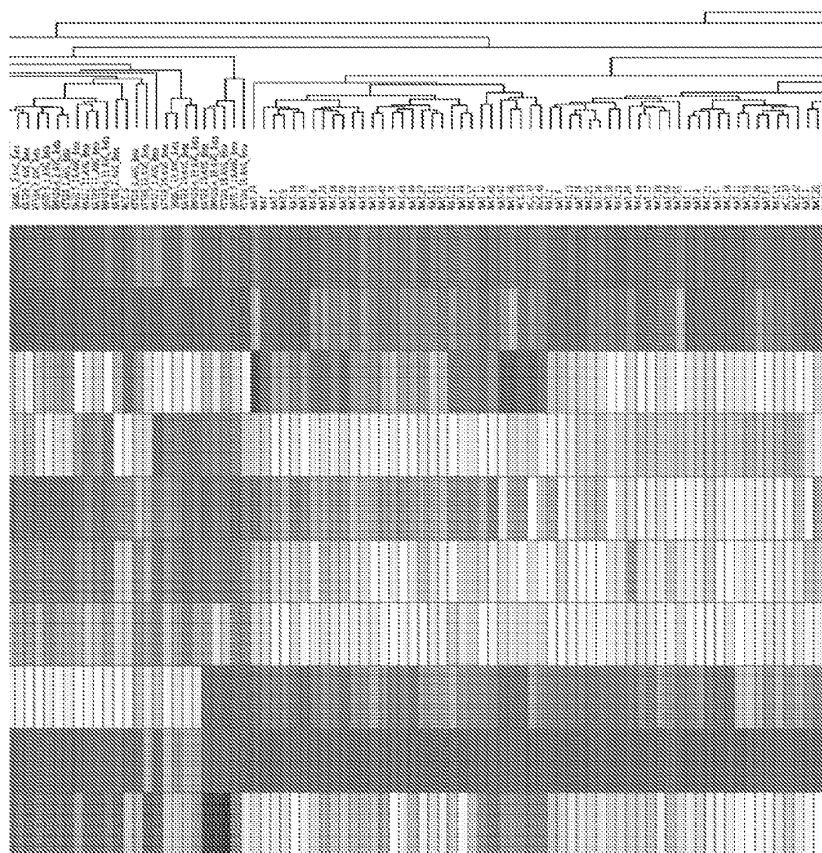


Figure 2.





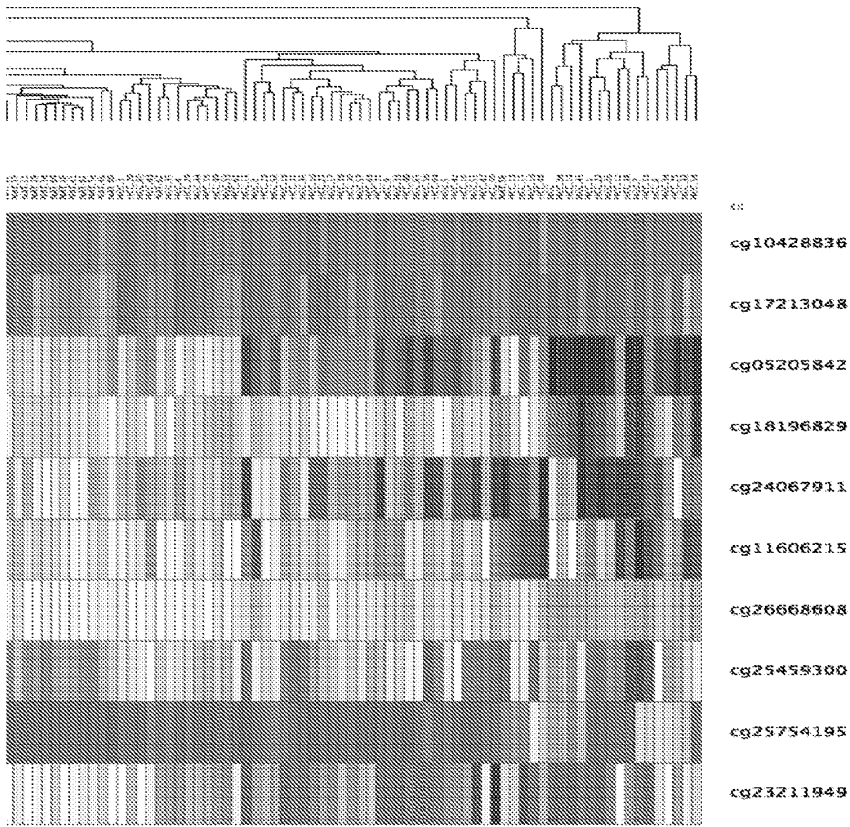


FIG. 2C

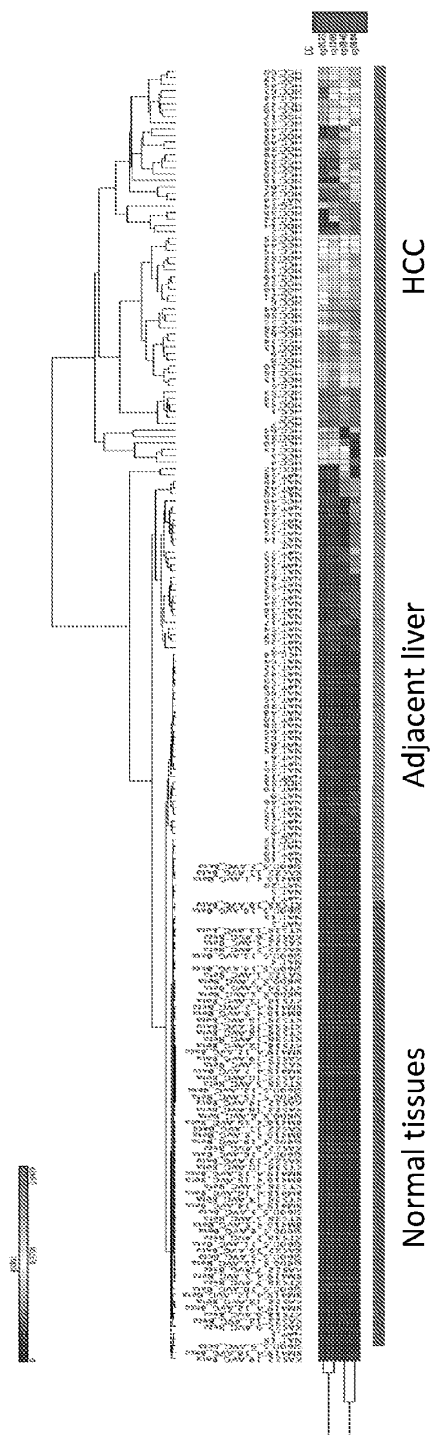
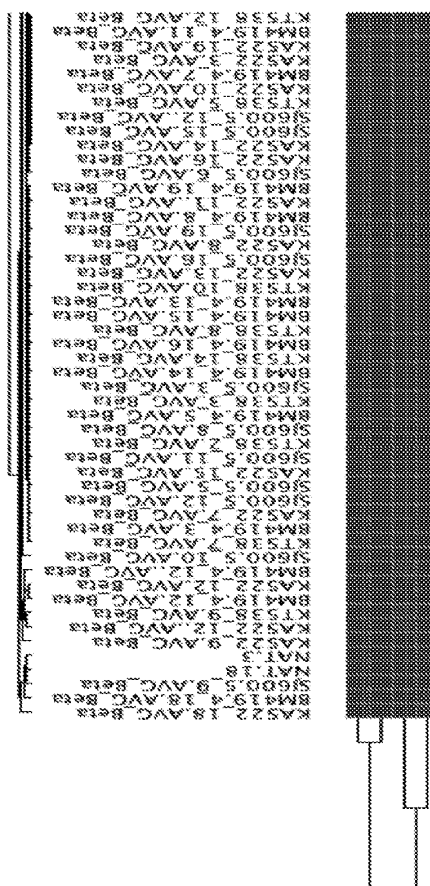


FIG. 3



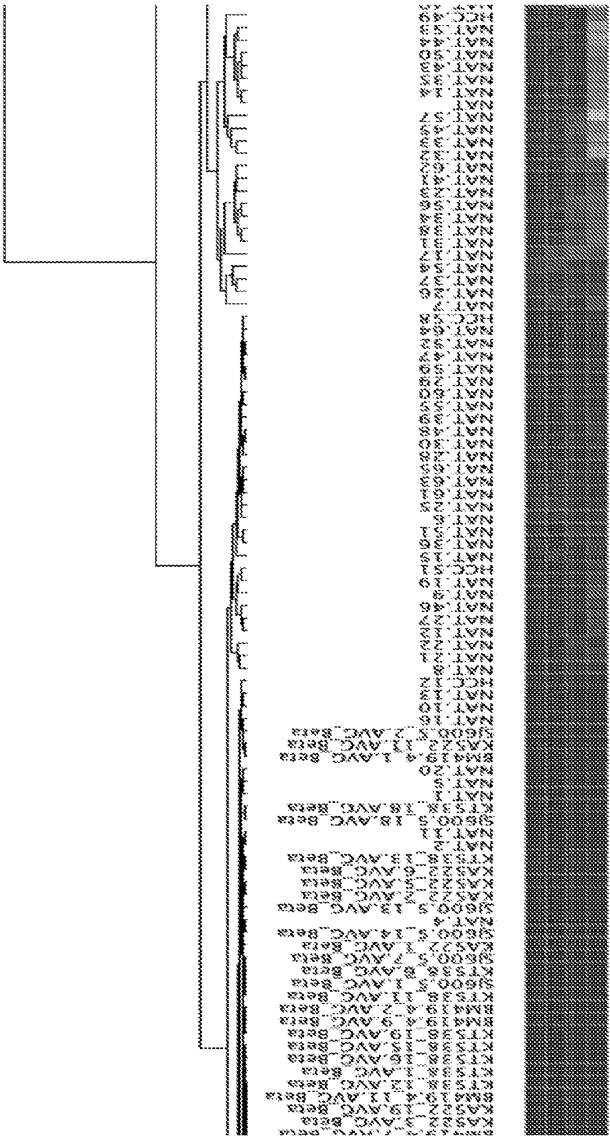


FIG. 3B

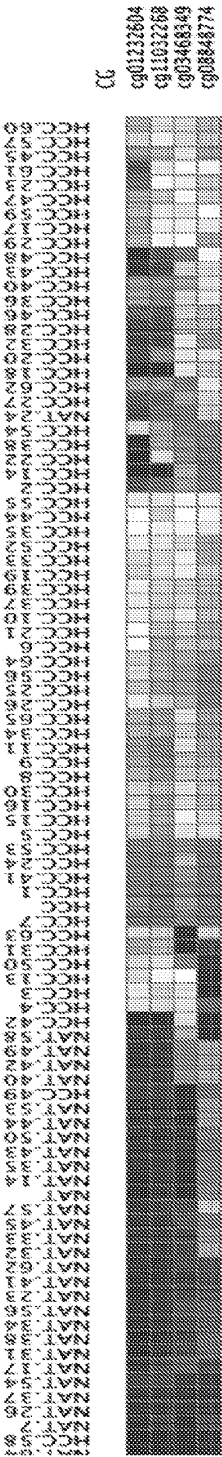
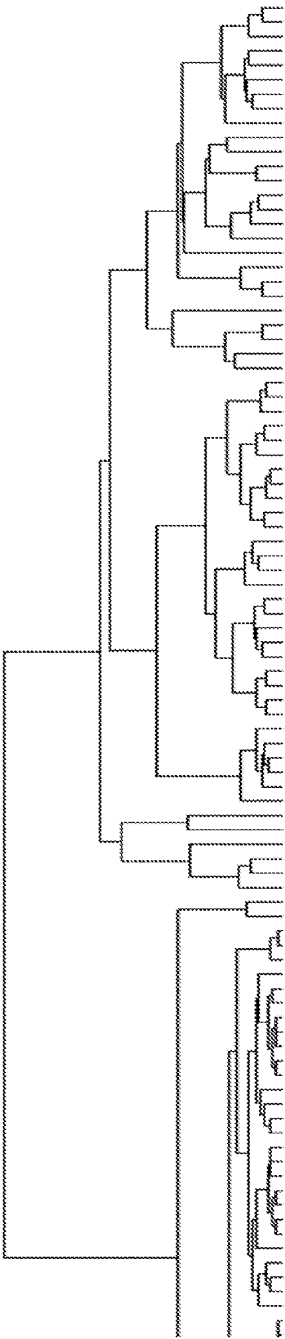
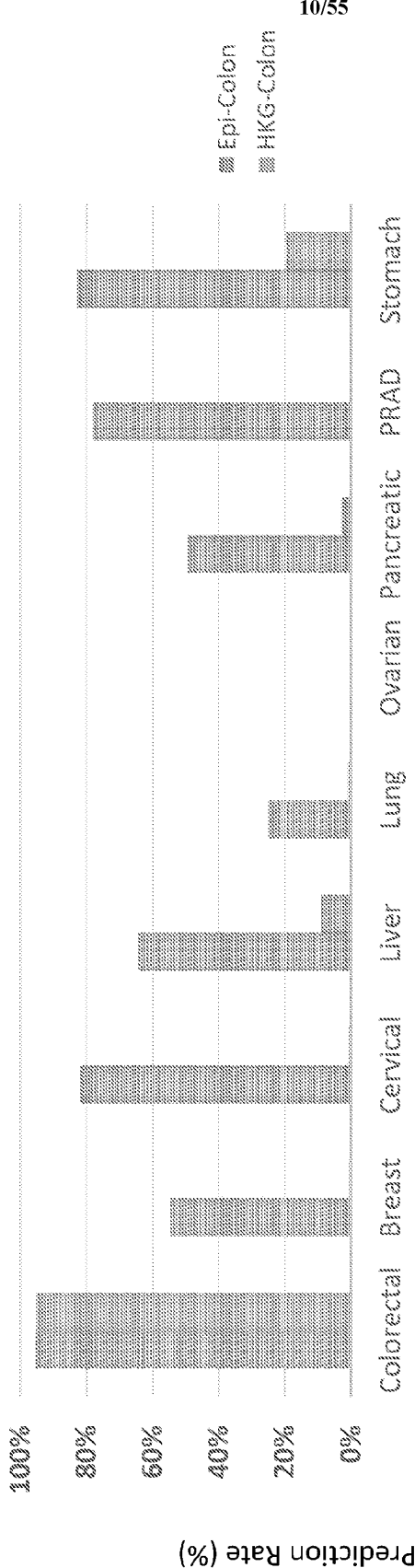


FIG. 3C

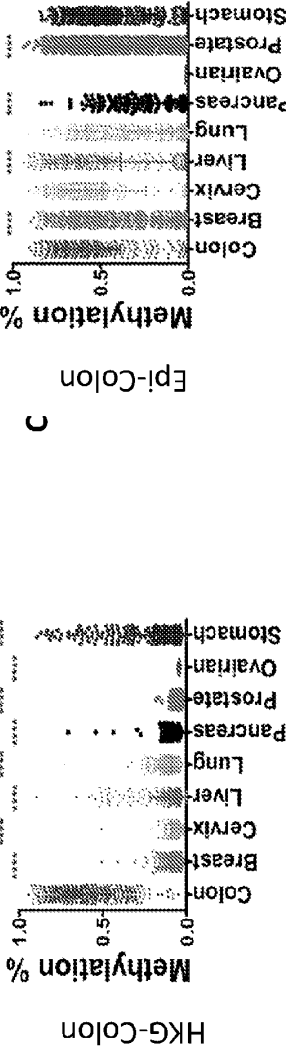
HKG-epiCRC vs. EpiColon

A



10/55

B



C

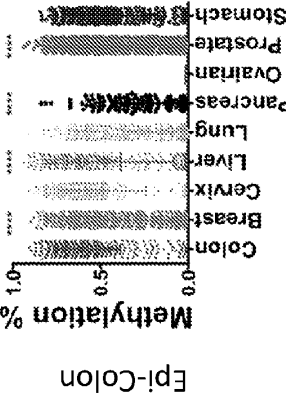


Figure 4.

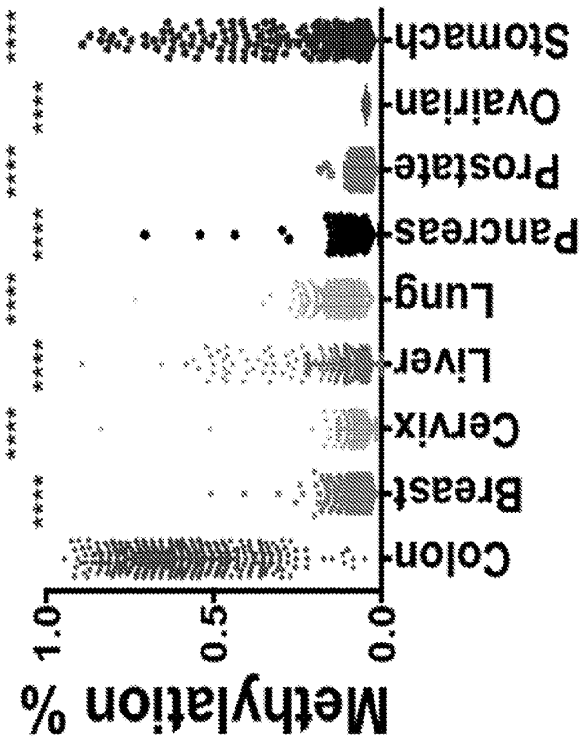


FIG. 4A

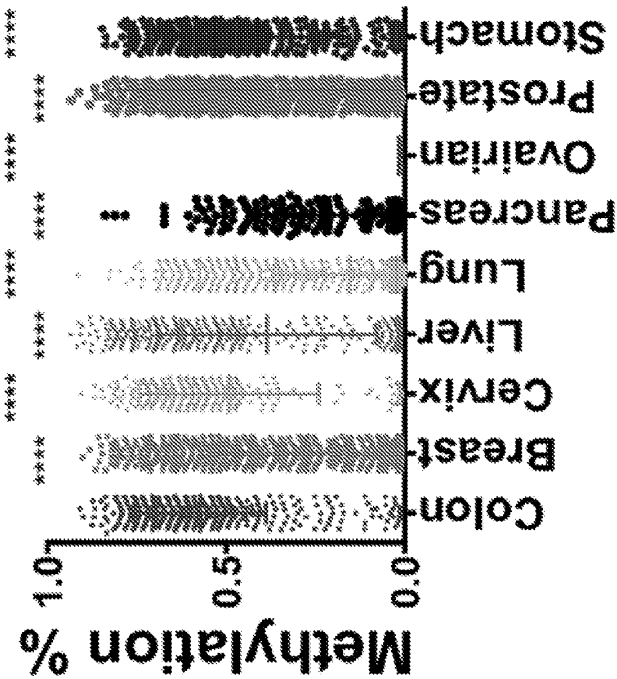


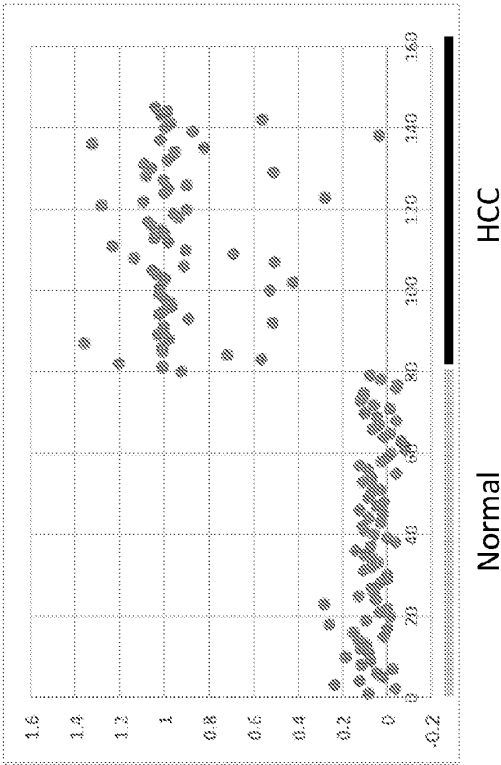
FIG. 4B

HKG-epiLiver: Discovery

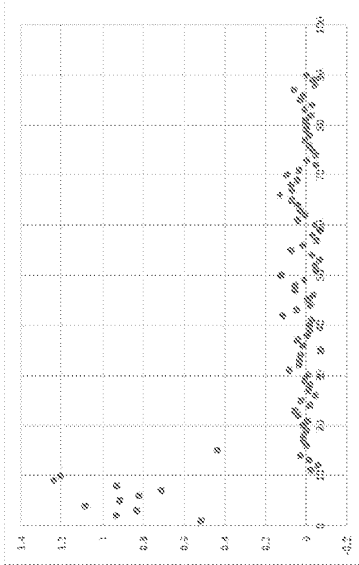
A

	Source	N	Purpose
Normals	GSE61258	79	Detect
HCC	TCGA	66	Detect
HCC	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

B “Detect”



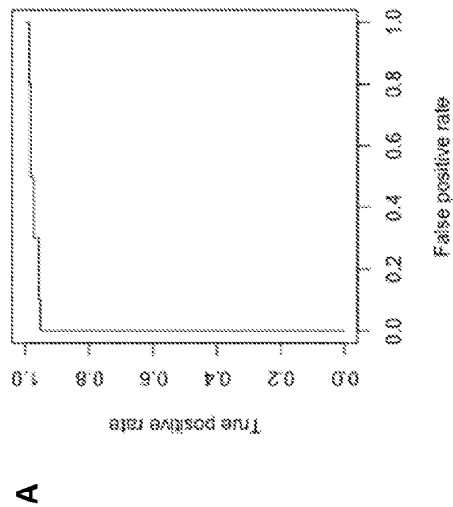
C “Spec”



HCC 8 different Cancer types

Figure 5.

HKG-epi Liver-detect: Validation GSE76269



sensitivity	0.96
specificity	1
accuracy	0.97
AUC	0.98

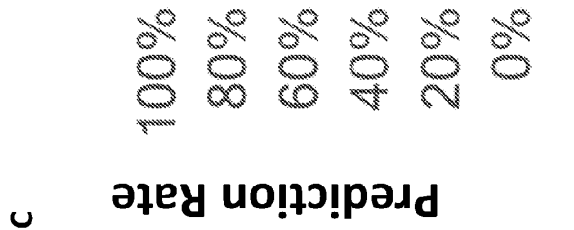
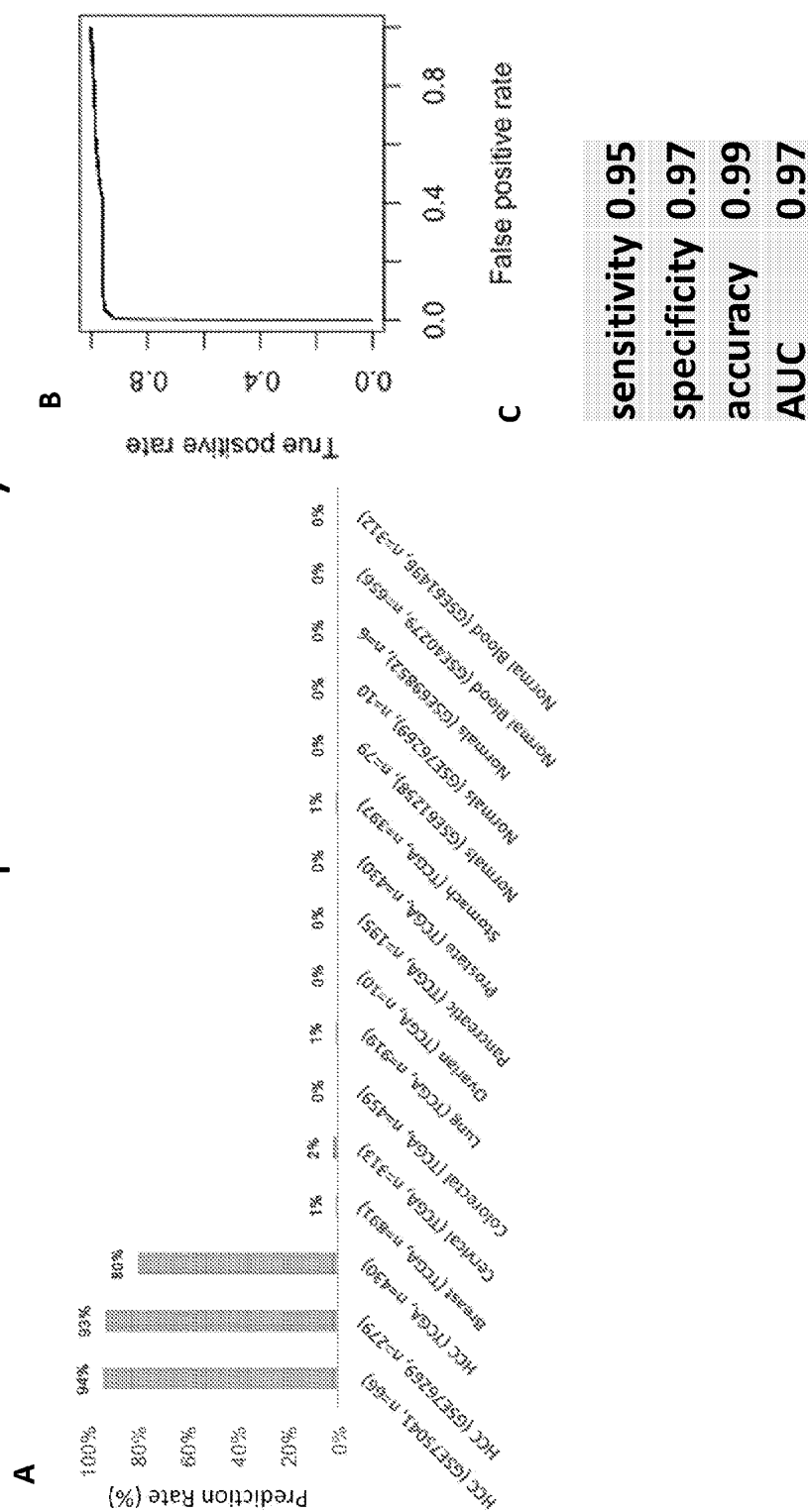


Figure 6

HKG-epiLiver: Summary

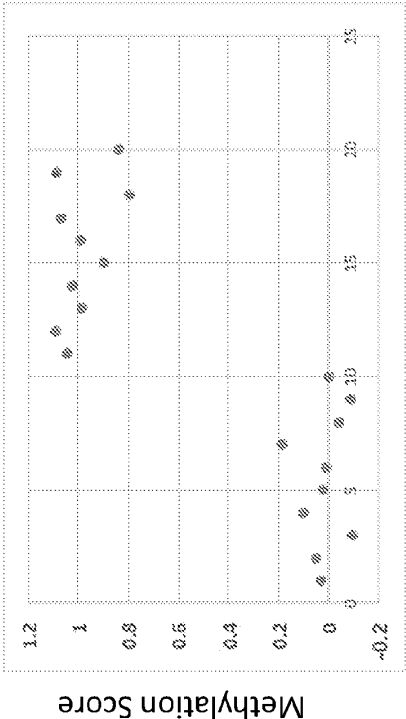


A HKG-epiLung: Discovery

A

	Source	N	Description
Normals	GSE61258	10	Detect
Lung cancer	TCGA	10	Detect
Lung cancer	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

B “Detect”



C “Spec”

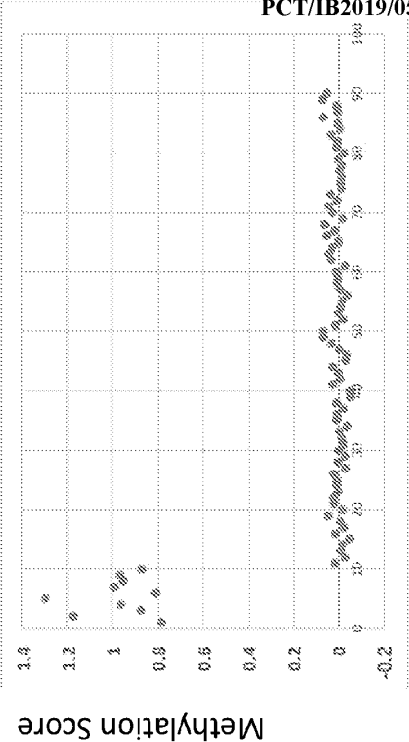
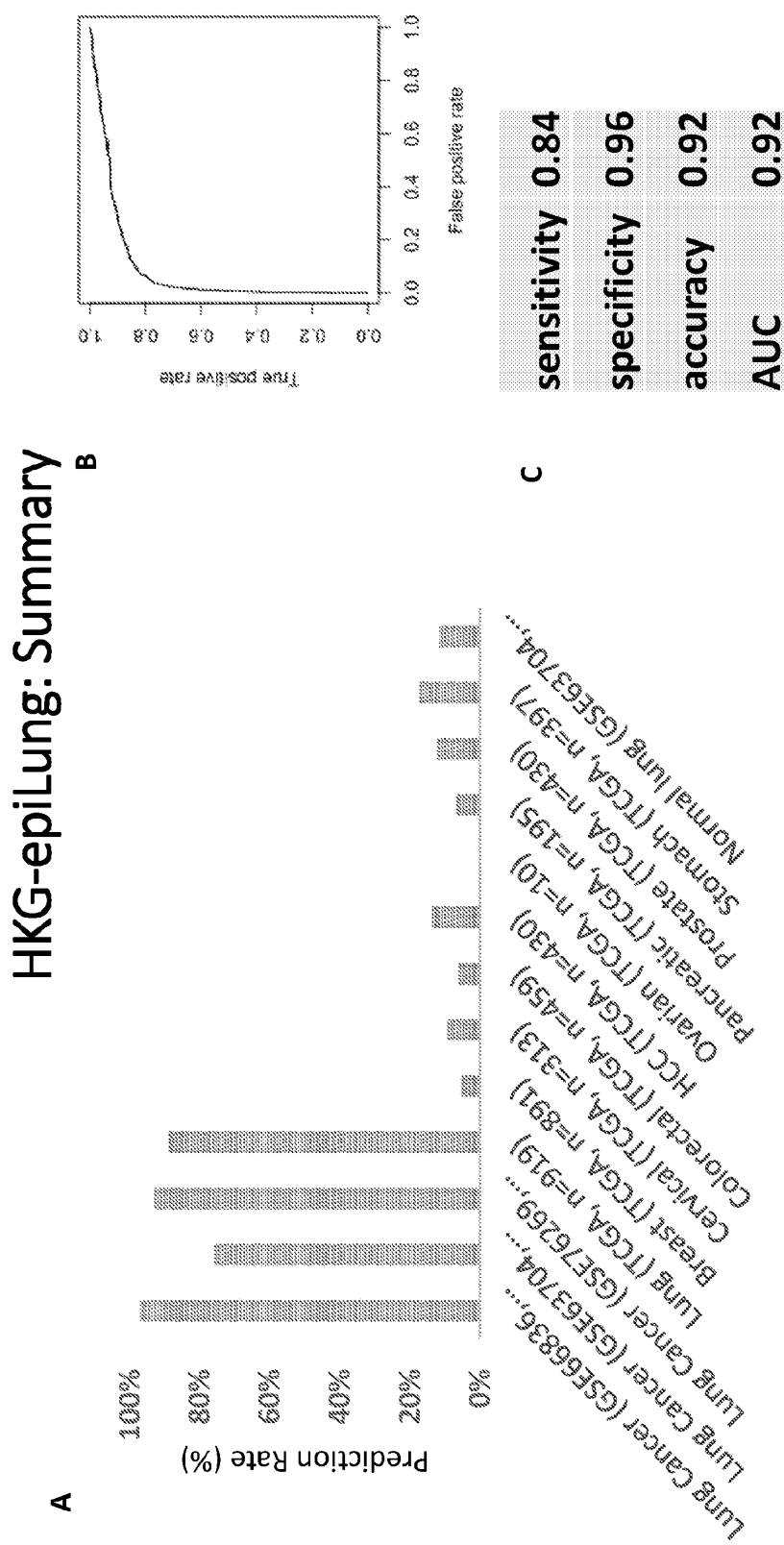


Figure 8



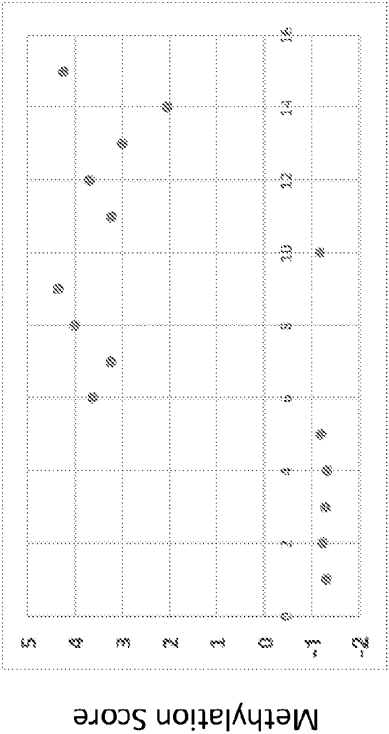
HKG-epiProstate: Discovery

A

	Source	N	Purpose
Normals	GSE52955	5	Detect
PRAD	TCGA	10	Detect
PRAD	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

B

“Detect”



C

“Spec”

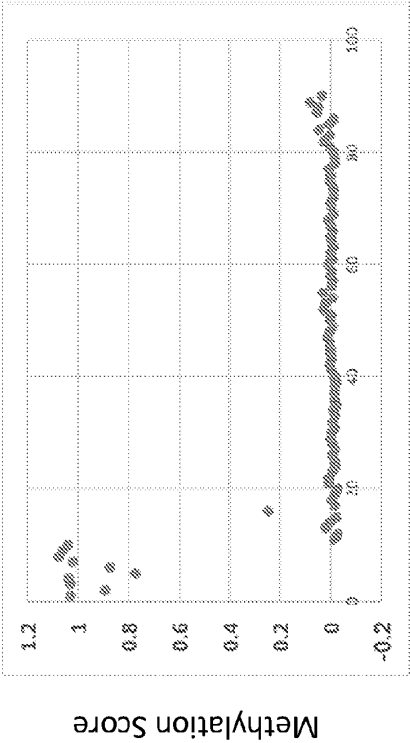


Figure 10

HKG-epiProstate: Summary

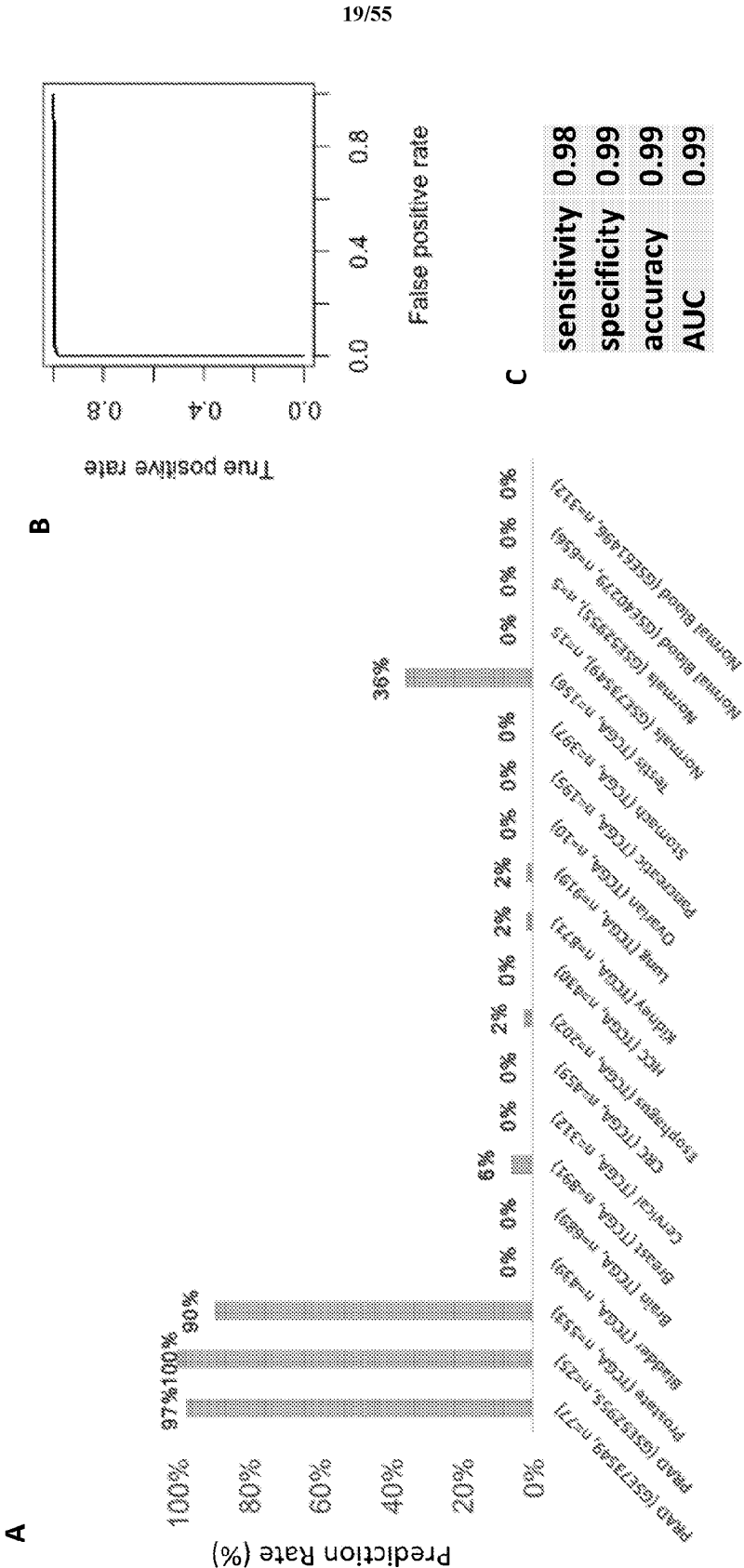


Figure 11

HKG-epiBreast: Discovery

A

	Source	N	Purpose
Normals	GSE60185	17	Detect
Breast Cancer	TCGA	10	Detect
Breast Cancer	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

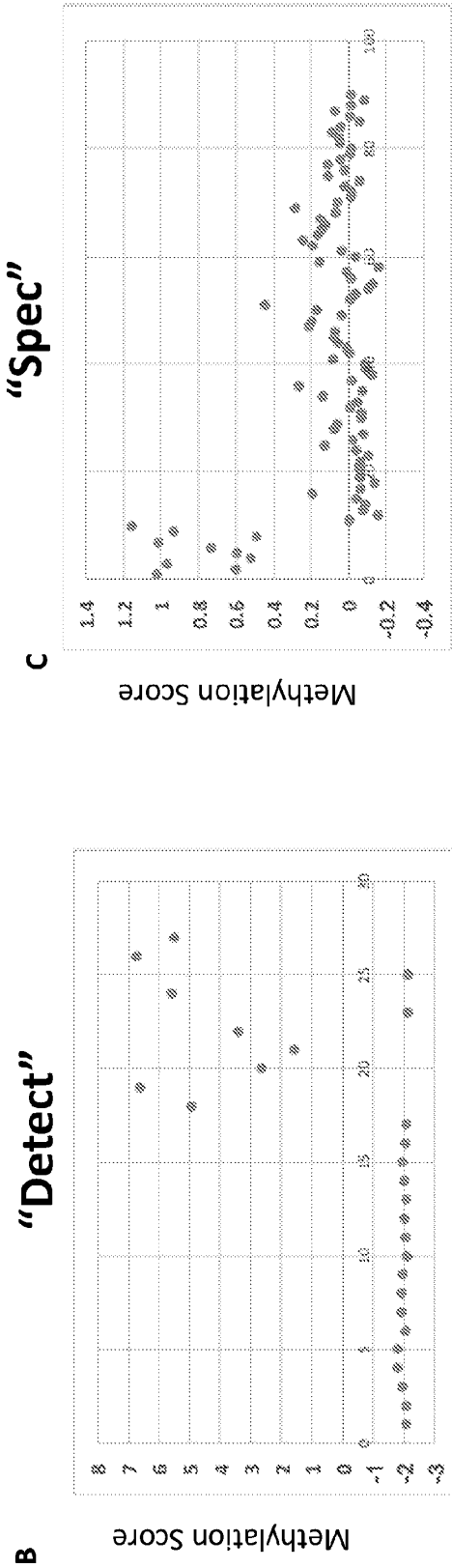


Figure 12

HKG-epiBreast-detect: Validation GSE60185

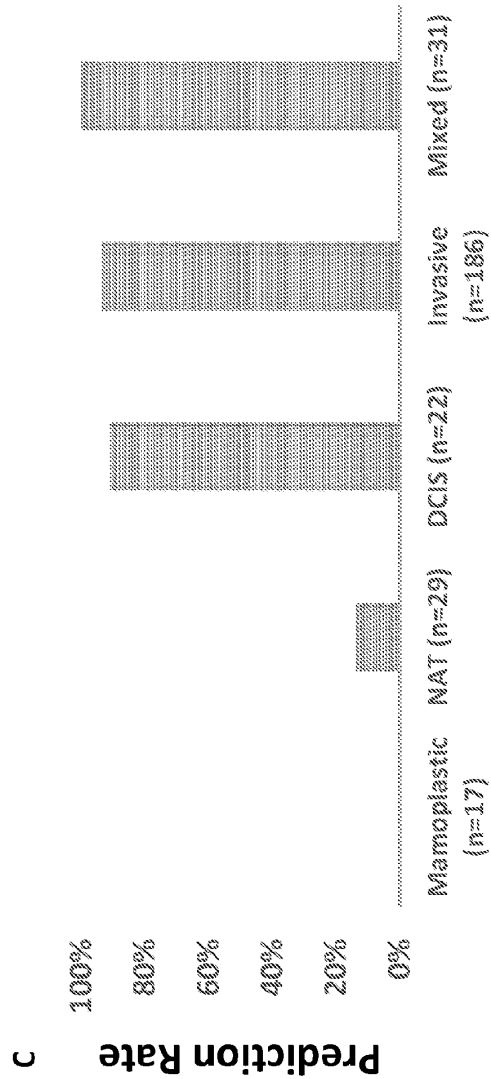
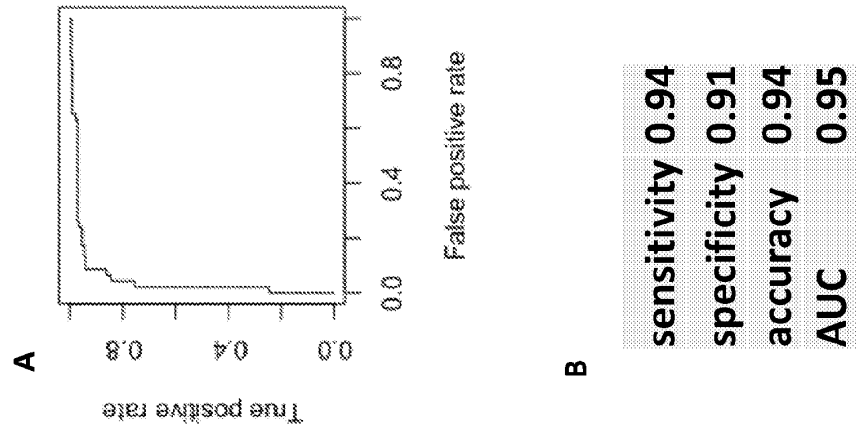


Figure 13

HKG-epiBreast: Summary

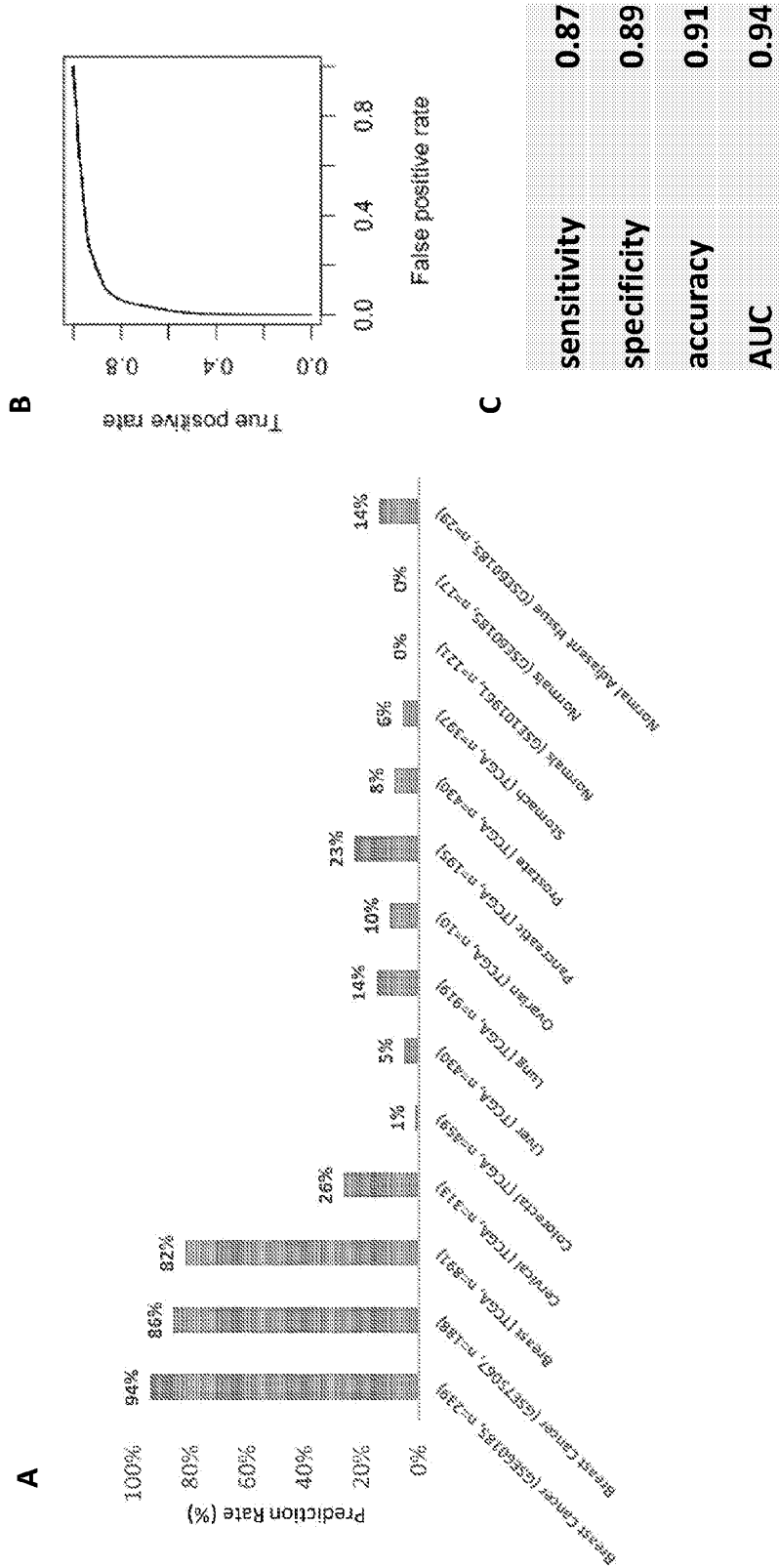


Figure 14

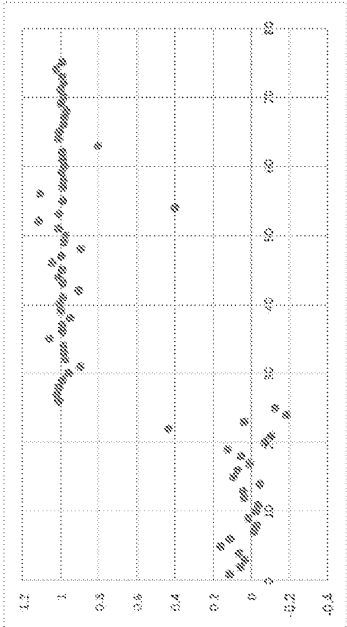
HKG-epiCRC: Discovery

A

	Source	N	Description
Normals	GSE32146	25	Detect
CRC	TCGA	50	Detect
CRC	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

B

“Detect”



C

“Spec”

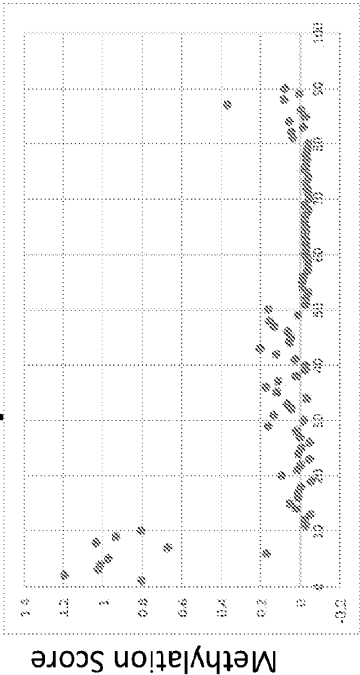


Figure 15

HKG-epiCRC: Summary

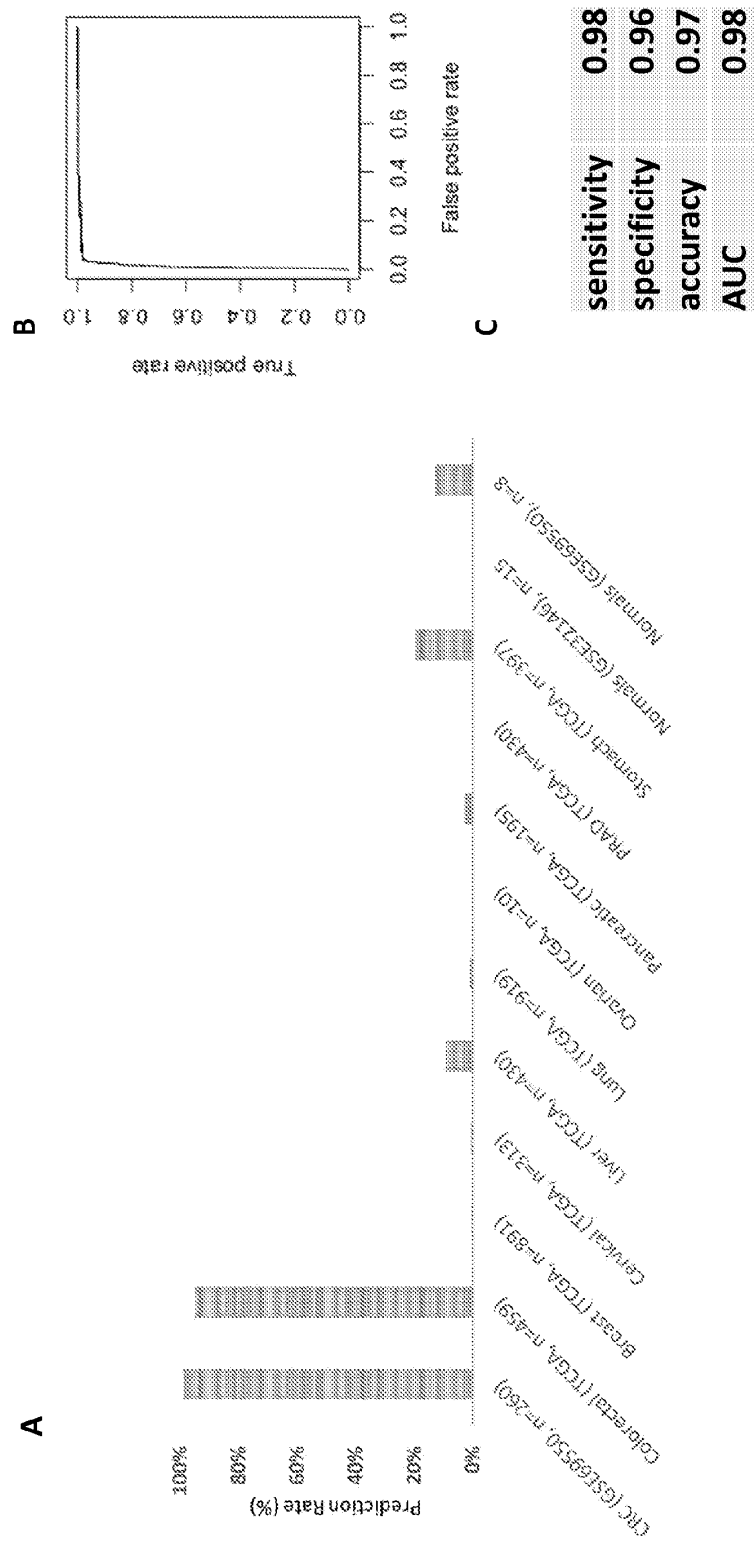


Figure 16

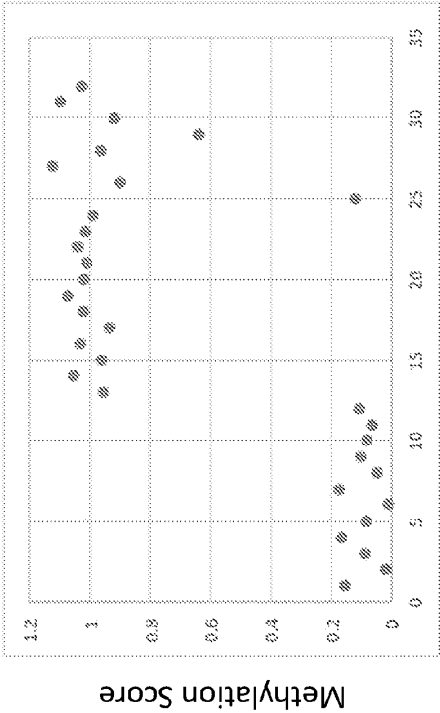
HKG-epiPancreas: Discovery

A

	Source	N	Description
Healthy	GSE53051	12	Detect
PANC	TCGA	20	Detect
PANC	TCGA	20	Spec
Other Cancers	TCGA	100	Spec

“Detect”

B



“Spec”

C

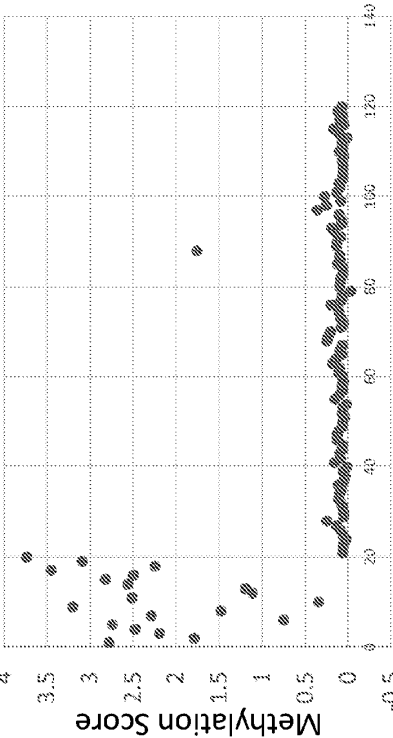


Figure 17

HKG-epiPancreas: Summary

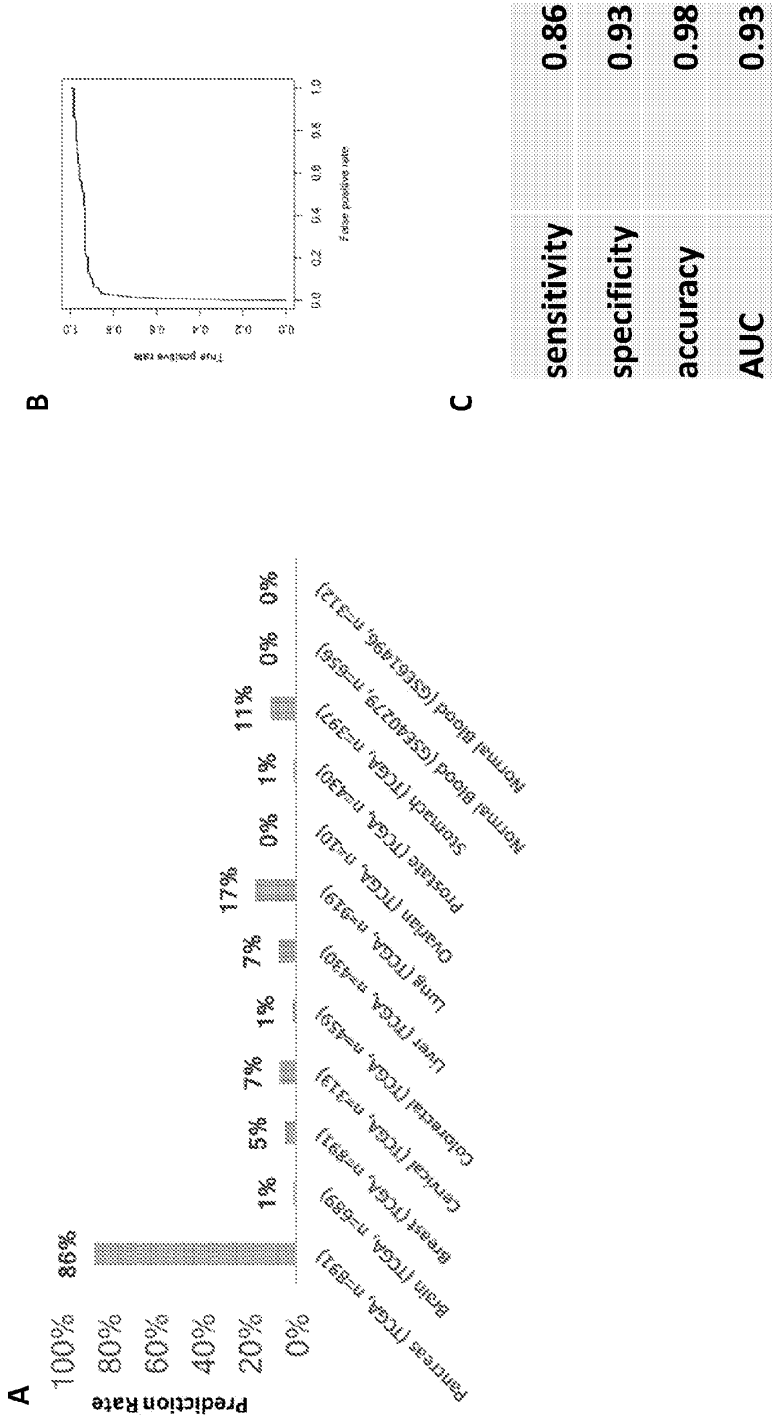


Figure 18

HKG-epiBrain(glioma): Discovery

A

	Source	N	Description
Healthy	GSE65820	6	Detect
Brain	TCGA	10	Detect
Brain	TCGA	10	Spec
Other Cancers	TCGA	110	Spec

B

“Detect-Spec”

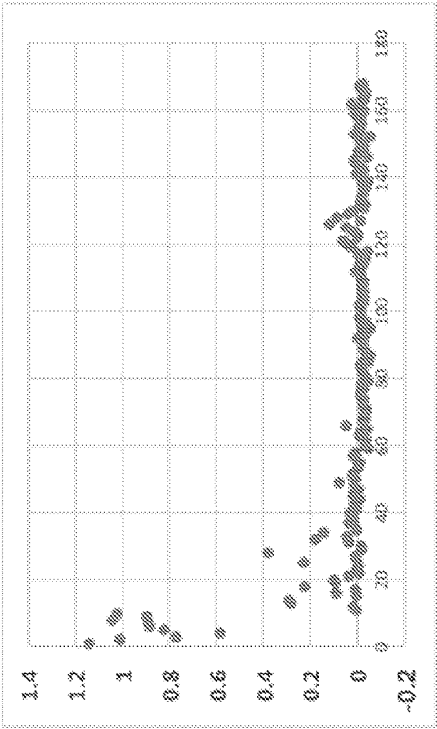
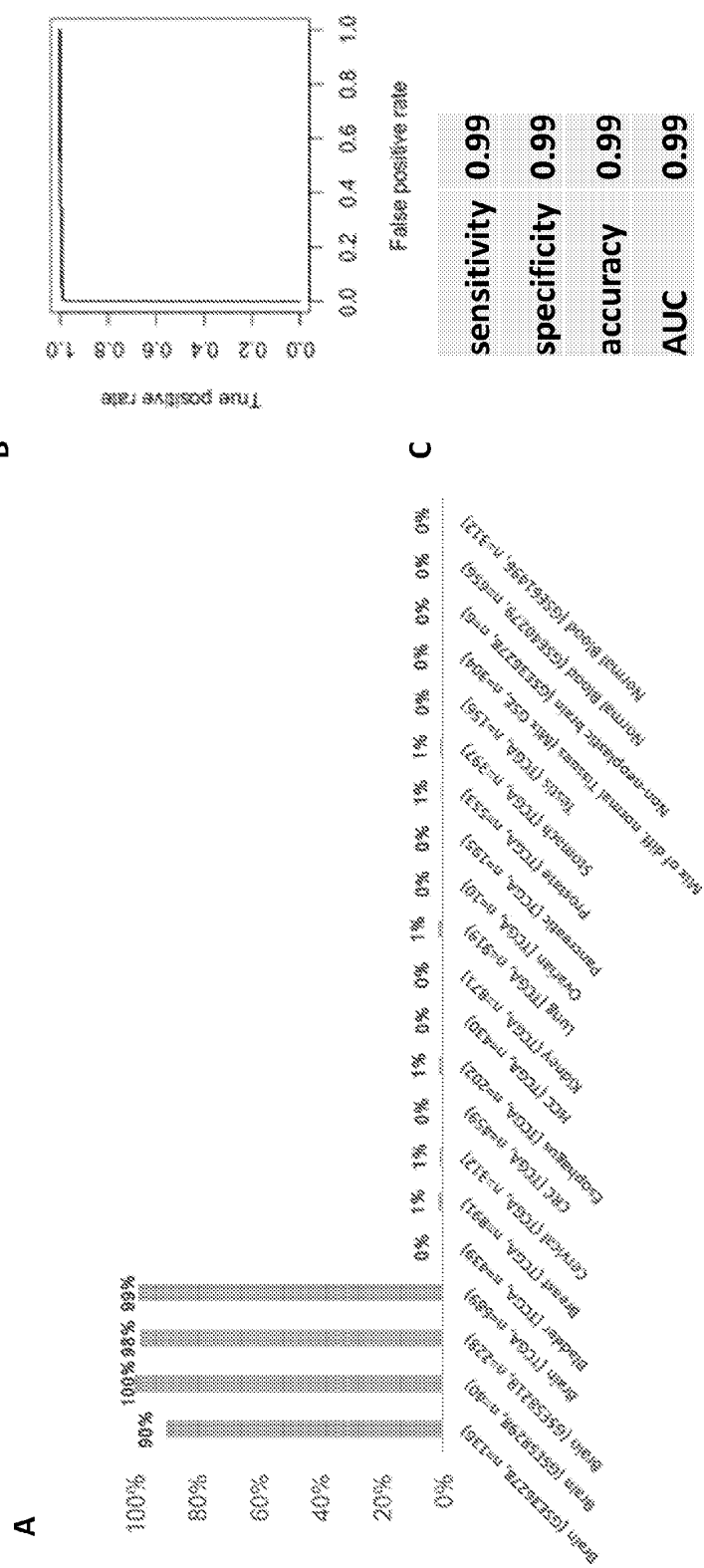


Figure 19

HKG-epiBrain (glioma): Summary_B

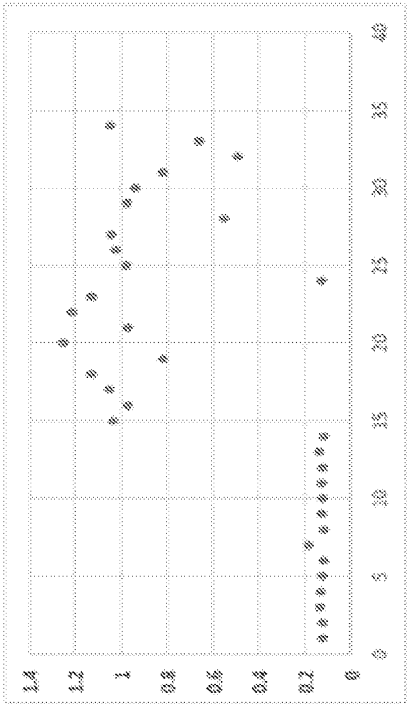


HKG-epiStomach-detect: Discovery

	Source	N	Purpose
Stomach Cancer	TCGA	7	Spec
Other Cancers	TCGA	100	Spec
Normals	GSE99553	14	Detect
Stomach Cancer	TCGA	20	Detect

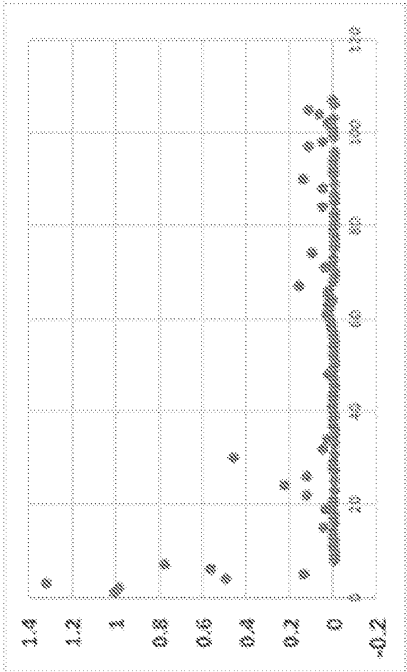
A

“Detect”



B

“Spec”



C.

Figure 21

HKG-epiStomach: Summary

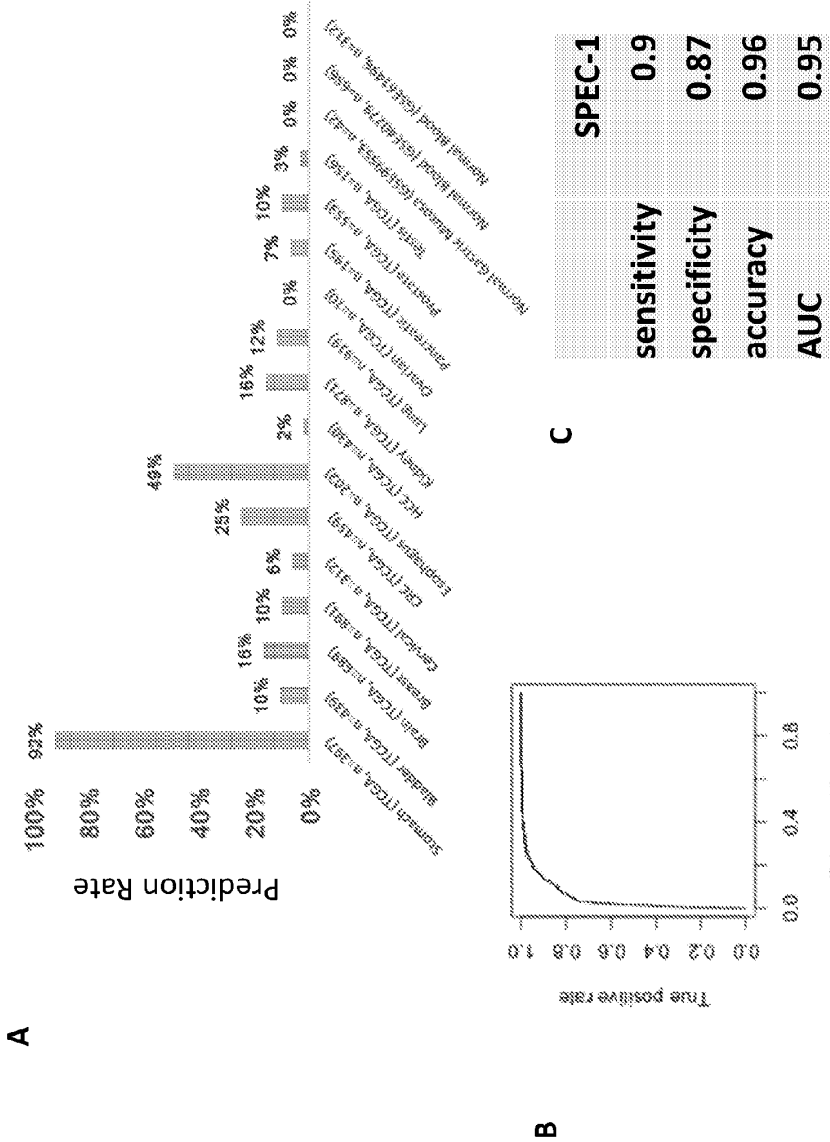


Figure 22

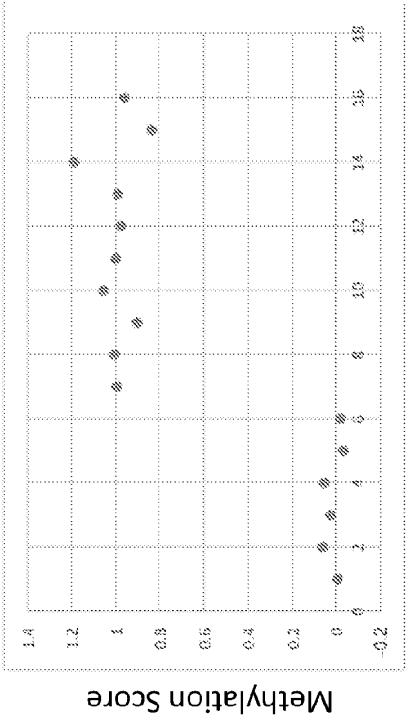
HKG-epiOvarian: Discovery

A

	Source	N	Description
Healthy	GSE65820	5	Detect
Ovarian	TCGA	10	Detect
Ovarian	TCGA	10	Spec
Other			
Cancers	TCGA	110	Spec

B

“Detect”



C

“Spec”

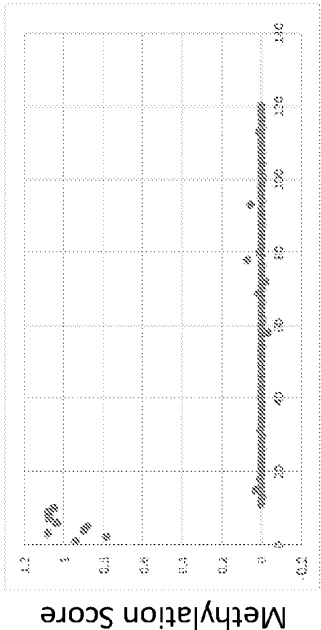
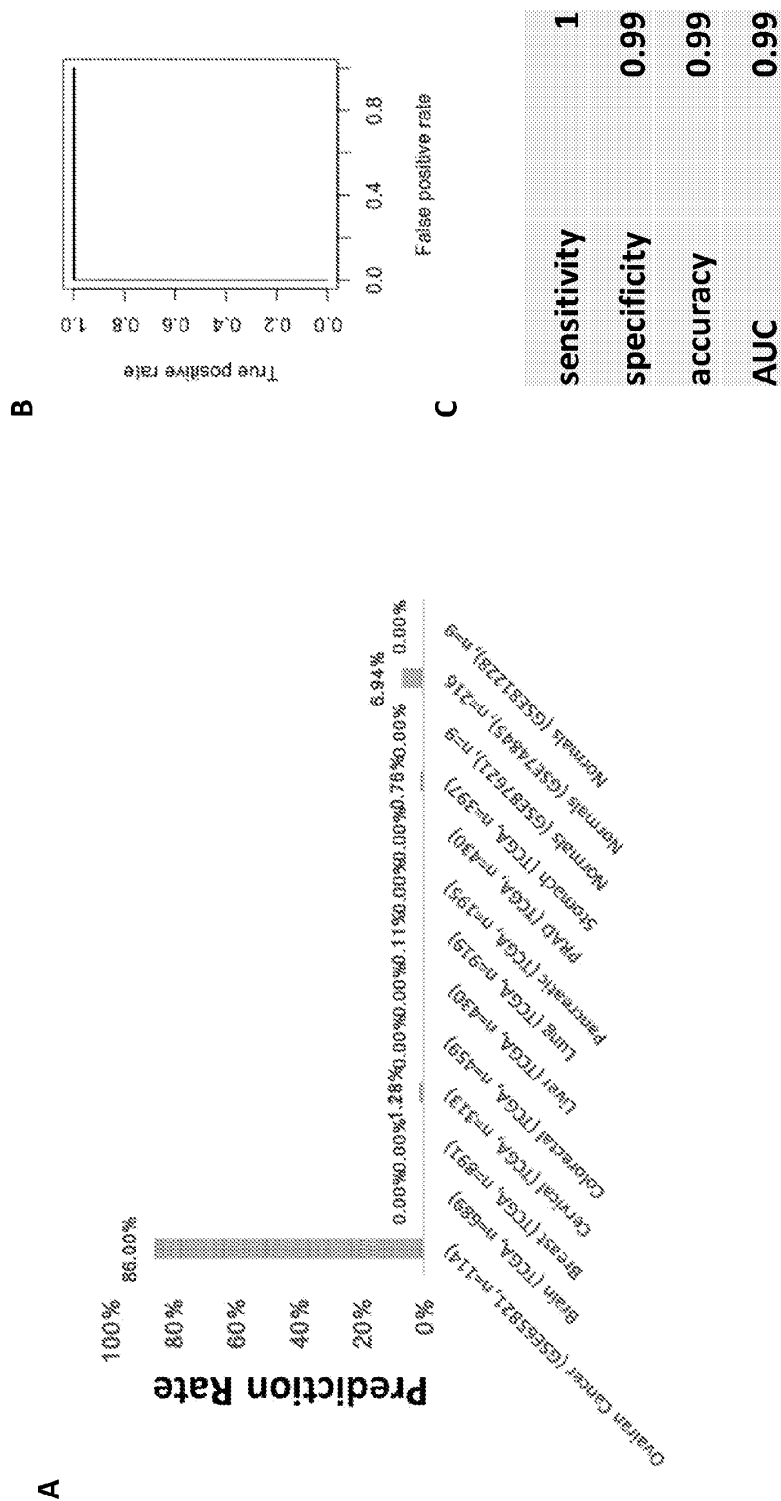


Figure 23

HKG-epiOvarian: Summary

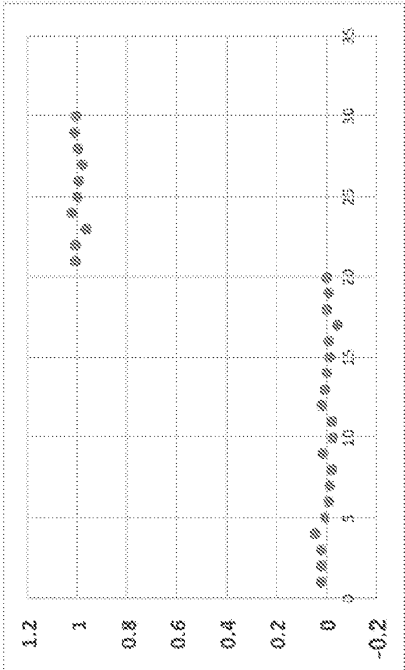


HKG-epiCervix: Discovery

A

	Source	N	Purpose
Normals	GSE46306	20	Detect
Cervix	TCGA	10	Detect
Cervix	TCGA	10	Spec
Other Cancers	TCGA	80	Spec

B “Detect”



C “Spec”

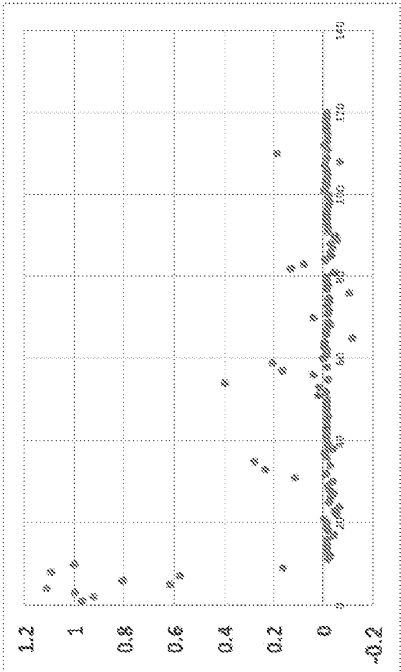


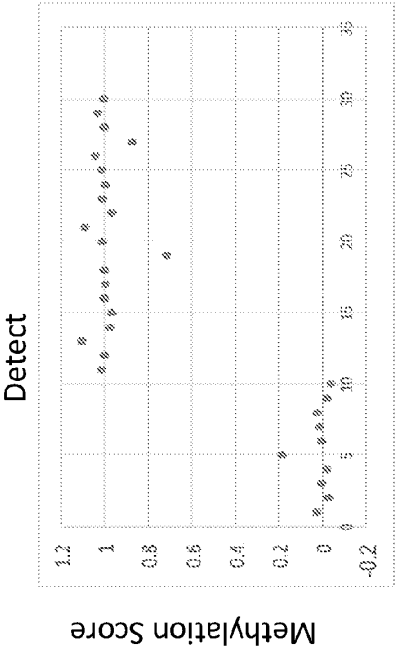
Figure 25

HKG-epiHNSC: Discovery

A

	Source	N	Description
Healthy	GSE75537	10	Detect
HNSC	TCGA	20	Detect
HNSC Cancer	TCGA	20	Spec
Other Cancers	TCGA	190	Spec
Normal Blood	GSE40279	10	Spec

B



C

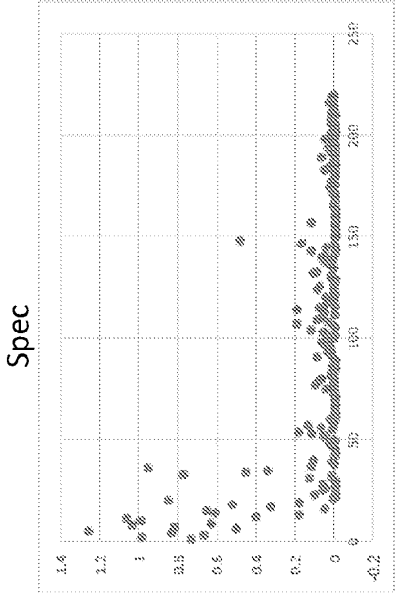


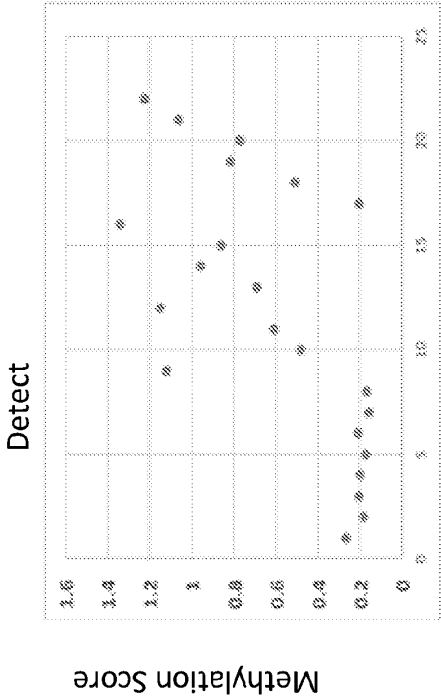
Figure 27

HKG-epiEsophageal cancer: Discovery

A

	Source	N	Purpose
Normals	GSE52826	6	Detect
Esopagheal Cancer	TCGA	10	Detect
Non-esophageal Cancers	TCGA	190	Spec
Healthy blood	GSE40279	10	Spec
Esophageal Cancer	TCGA	20	Spec

B



C

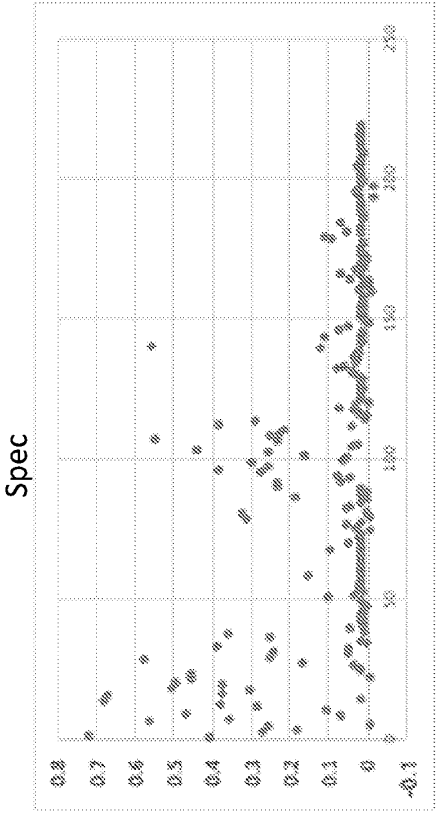


Figure 29

HKG-epiEsophageal cancer: Summary

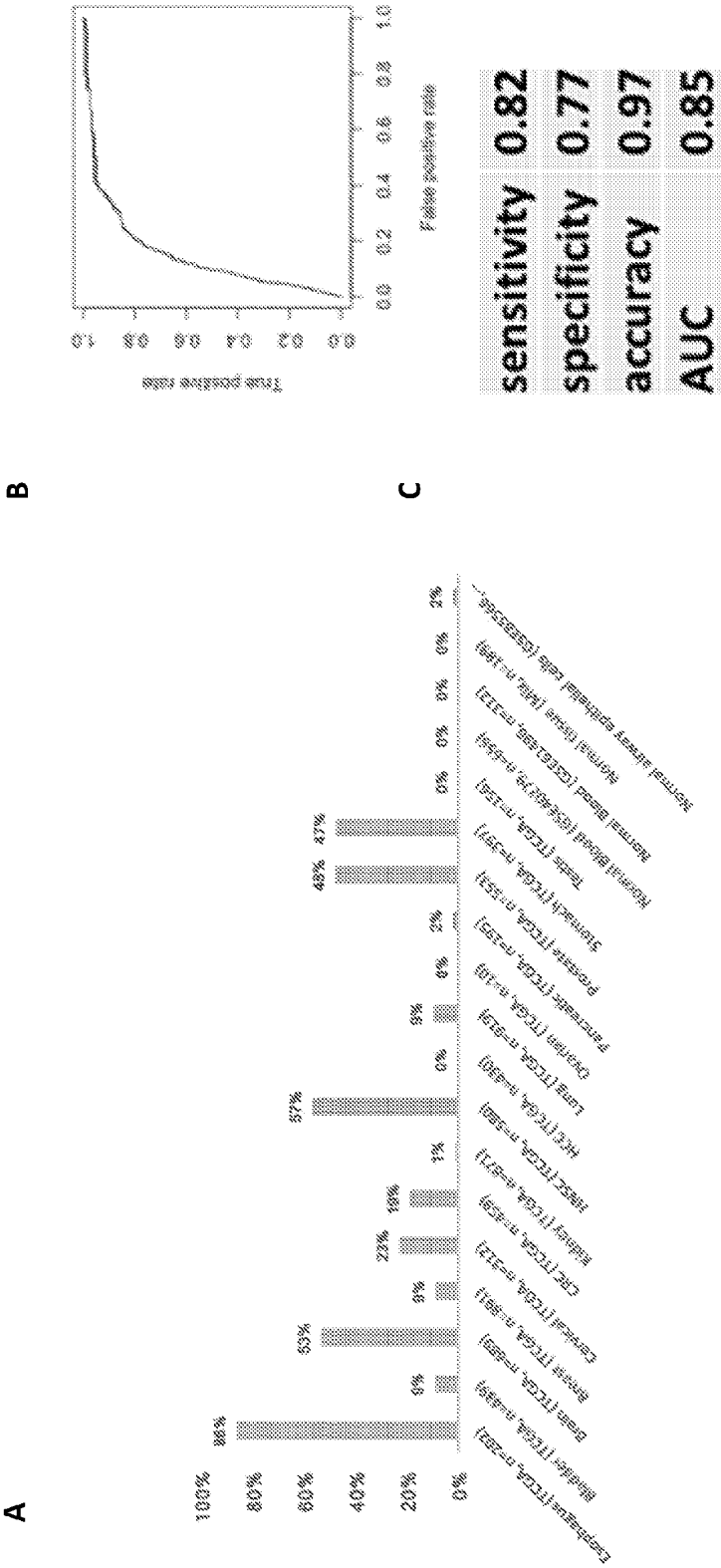


Figure 30

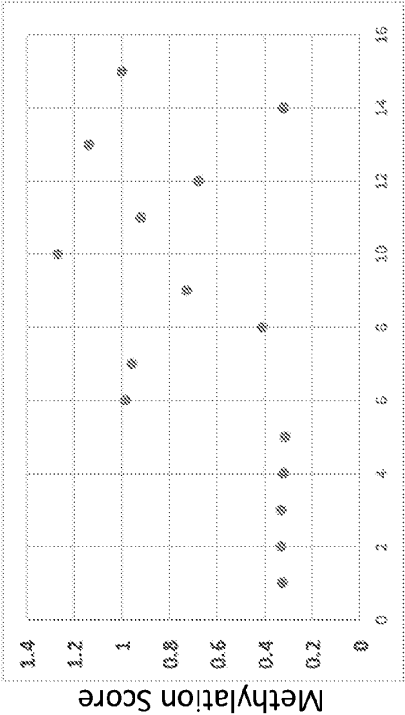
HKG-epiBladder: Discovery

A

	Source	N	Description
Healthy tissue	GSE52955	5	detect
Bladder Cancer	TCGA	10	detect
Bladder Cancer	TCGA	10	spec
Other Cancers	TCGA	180	spec

B

“Detect”



C

“Spec”

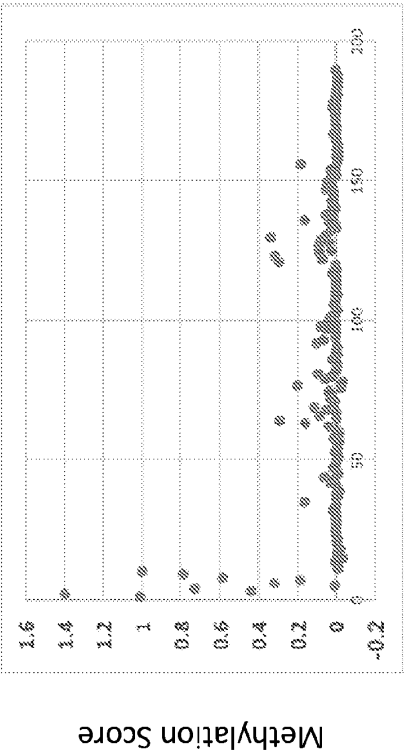


Figure 31

HKG-epiBladder: Summary

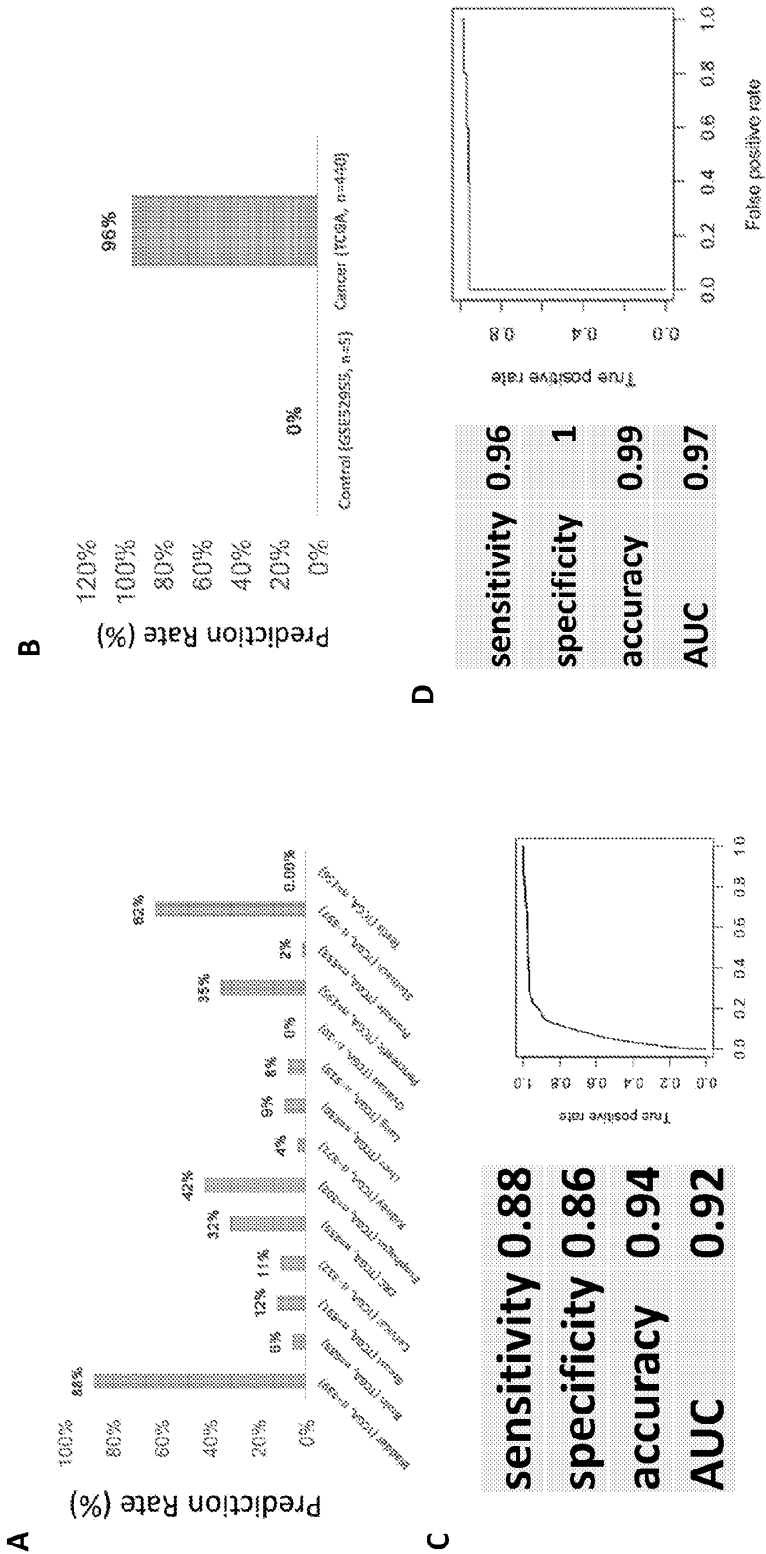


Figure 32

HKG-epiKidney: Discovery

A

	Source	N	Purpose
Other cancers	TCGA	180	Detect-Spec
Healthy Blood	GSE40279	10	Detect-Spec
Normal Kidney	GSE52955	6	Detect-Spec
Kidney	TCGA	30	Detect-Spec

B

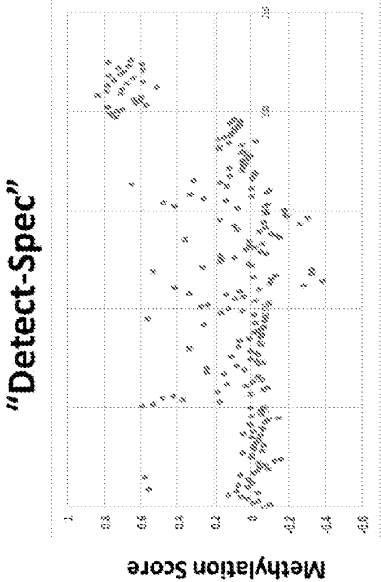


Figure 33

HKG-epiKidney: Summary

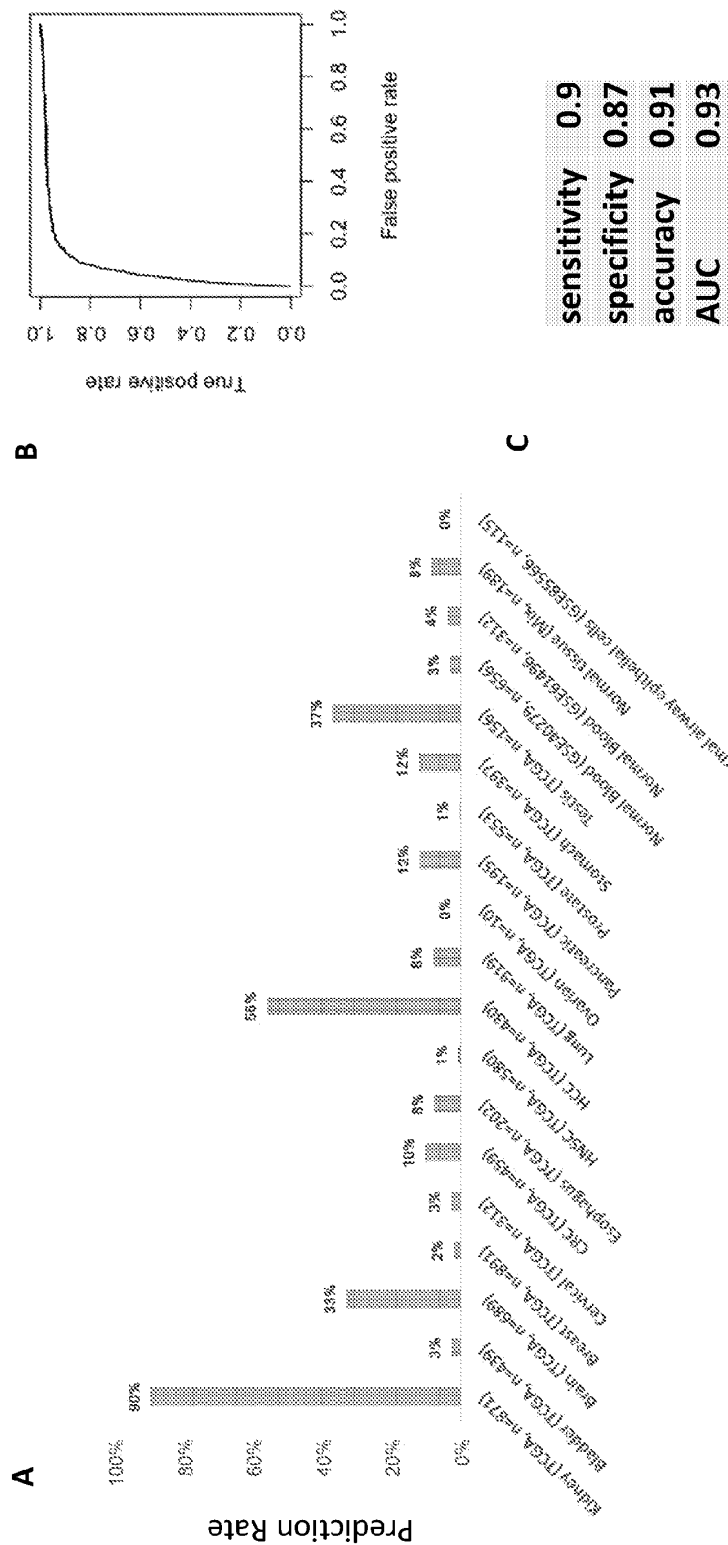


Figure 34

HKG-epiTestis: Discovery

A

	Source	N	Purpose
Other cancers and blood	GSE46306	180	Detect-Spec
Testis	TCGA	10	Detect-Spec

B

“Detect-Spec”

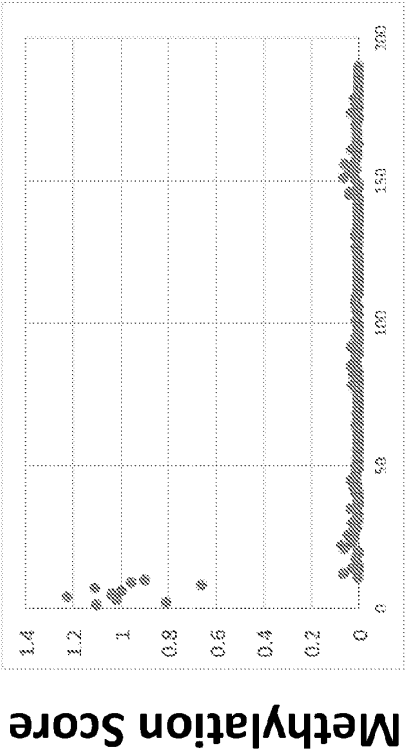


Figure 35

HKG-epiTestis: Summary

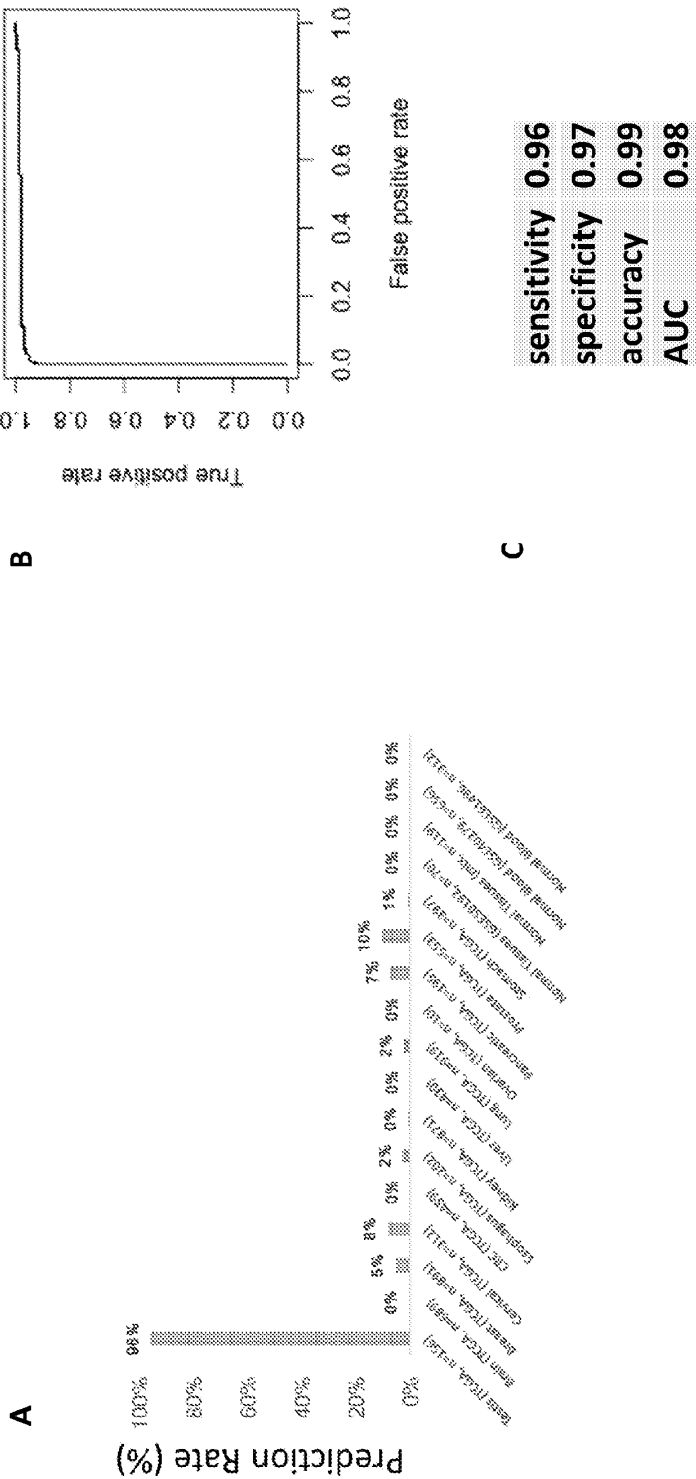


Figure 36

HKG epiPanCancer Discovery

A

	Source	N	Purpose
Healthy Blood	GSE40279	10	Detect
TCGA_cancers	TCGA	170	Detect

B

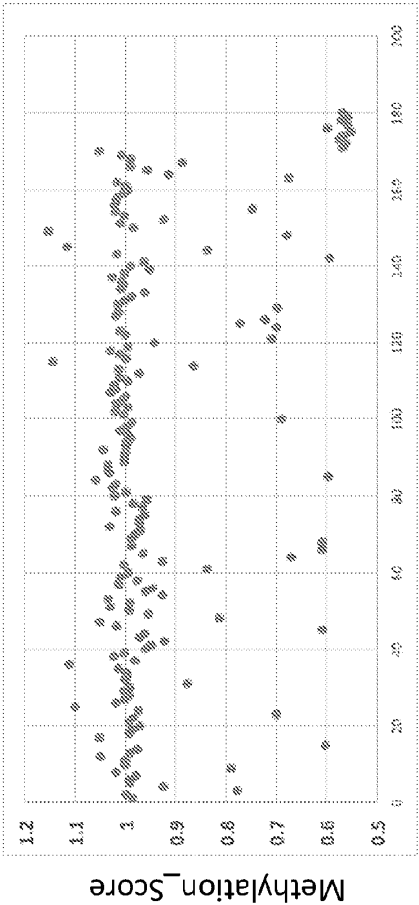
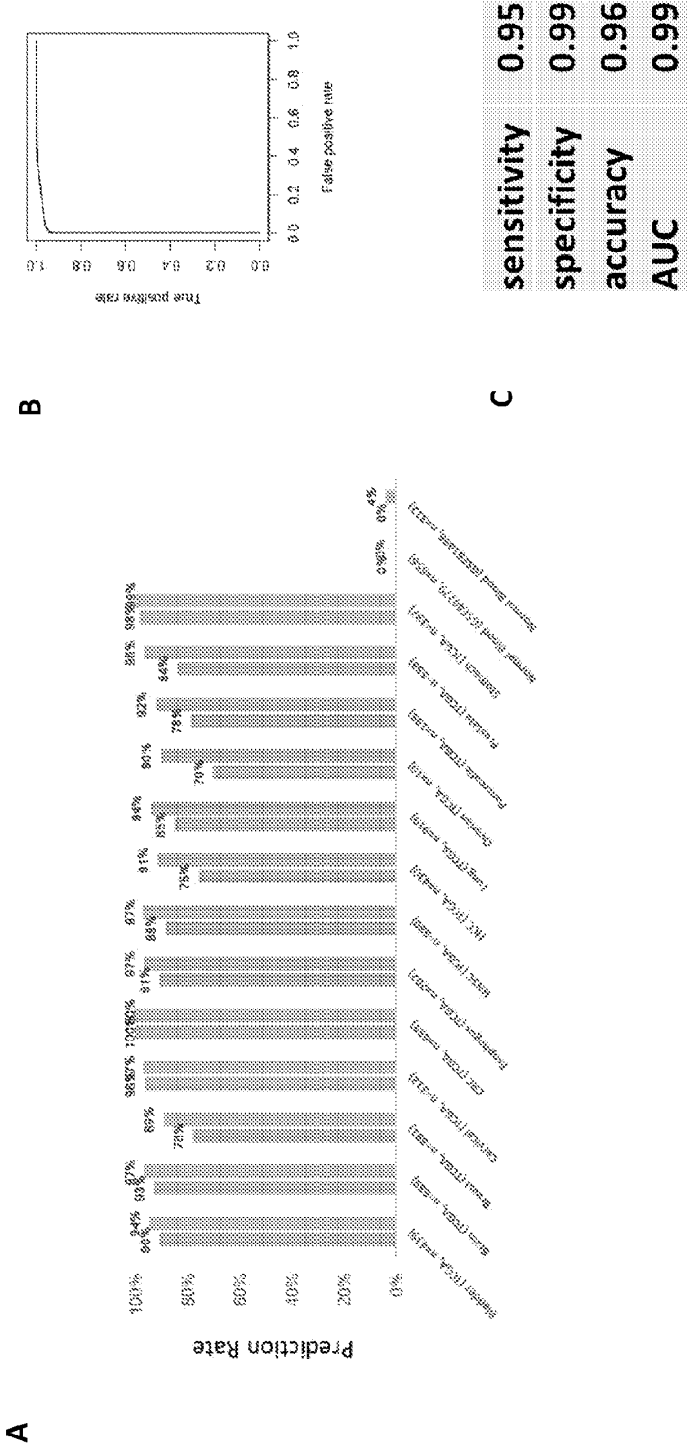


Figure 37

HK-epiPancancer Summary



Pan-cancer markers: 13 localizations, controls: 968 healthy blood control

Figure 38

HKG-epiMelanoma: Discovery

A

	Source	N	Purpose
Melanoma (SKCM)	TCGA	10	Detect-Spec
Other cancers and blood	TCGA	220	Detect-Spec

B

“Detect-Spec”

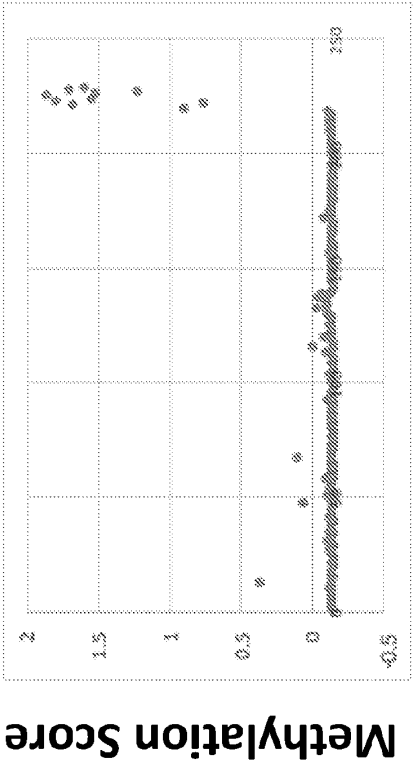


Figure 39

HKG-epiMelanoma: Summary



Figure 40

HKG-epiAML: Discovery

A

	Source	N	Purpose
AML	GSE86409	10	Detect-Spec
Blood	GSE40279	10	Detect-Spec

B

“Detect-Spec”

Methylation Score

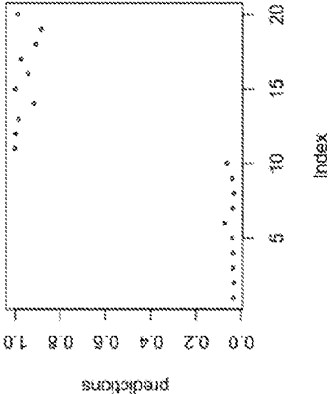


Figure 41

HKG-epiAML: Summary

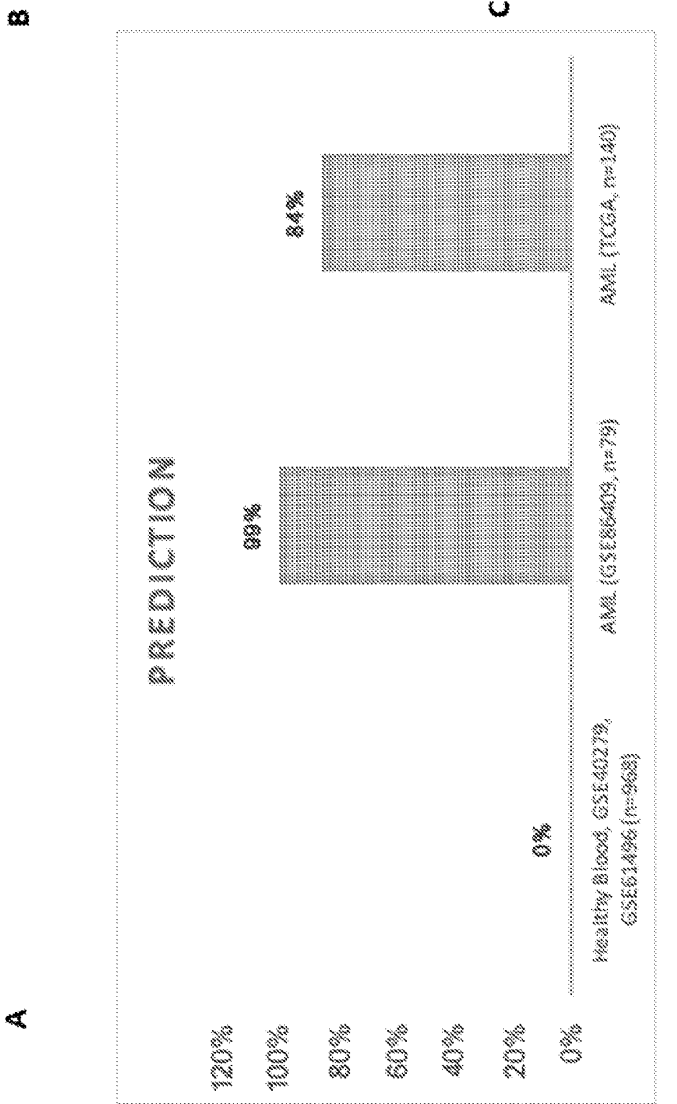


Figure 42

BCD validation on healthy plasma

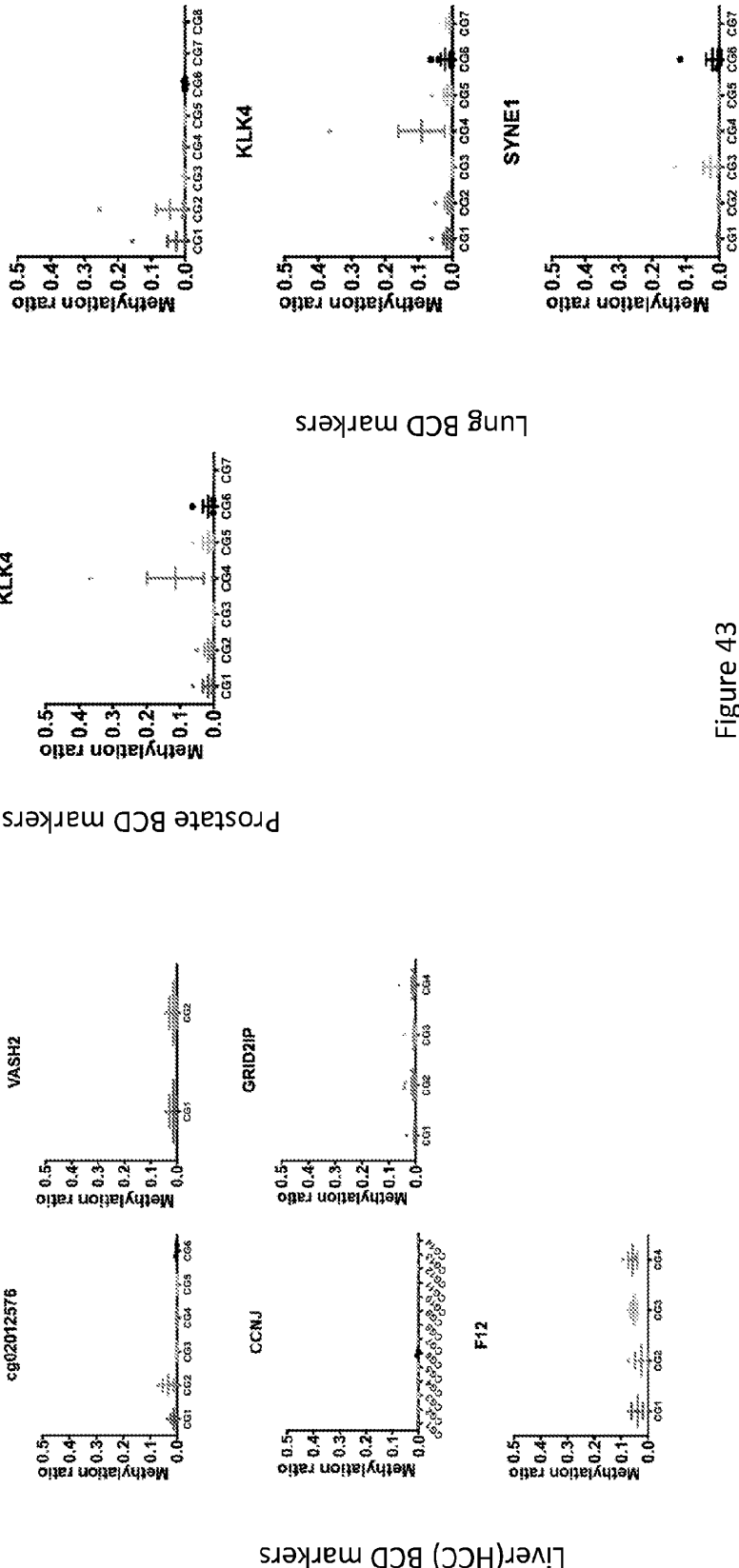


Figure 43

BCD validation on healthy plasma

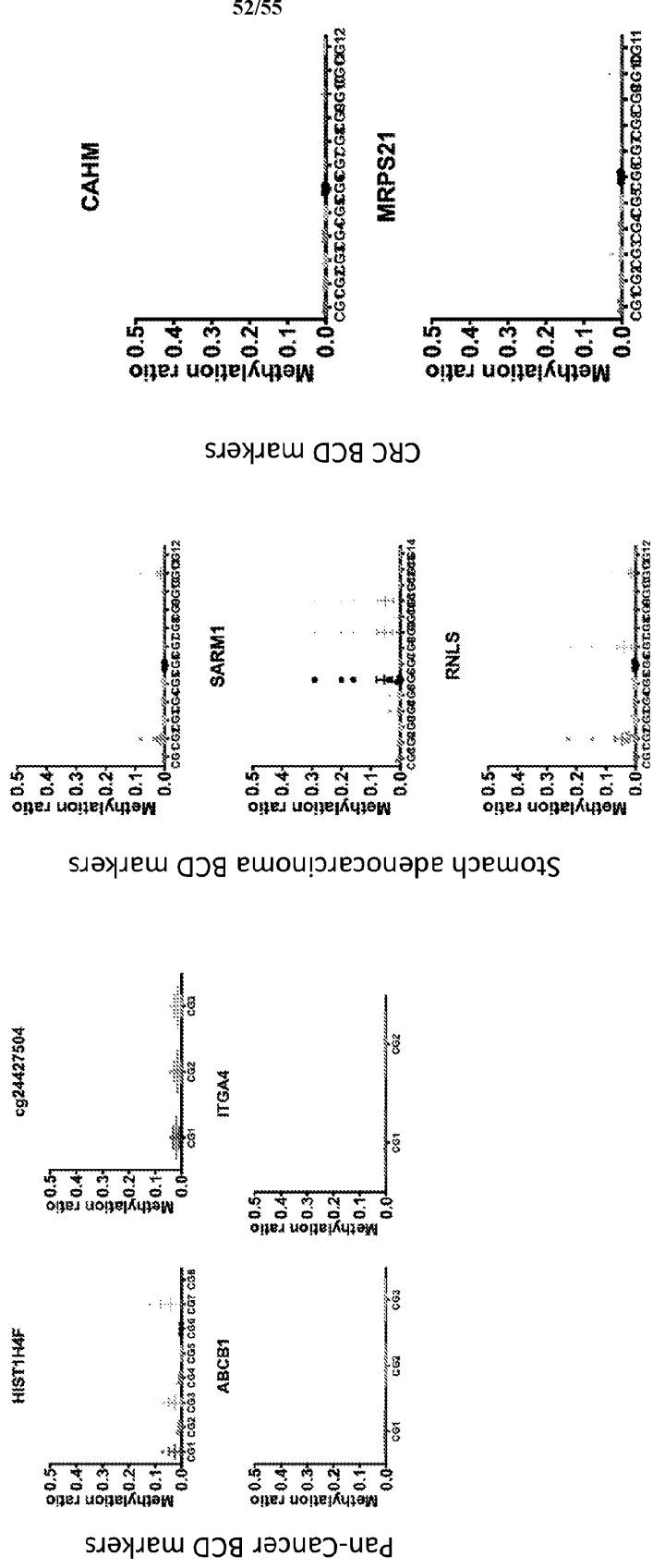


Figure 44

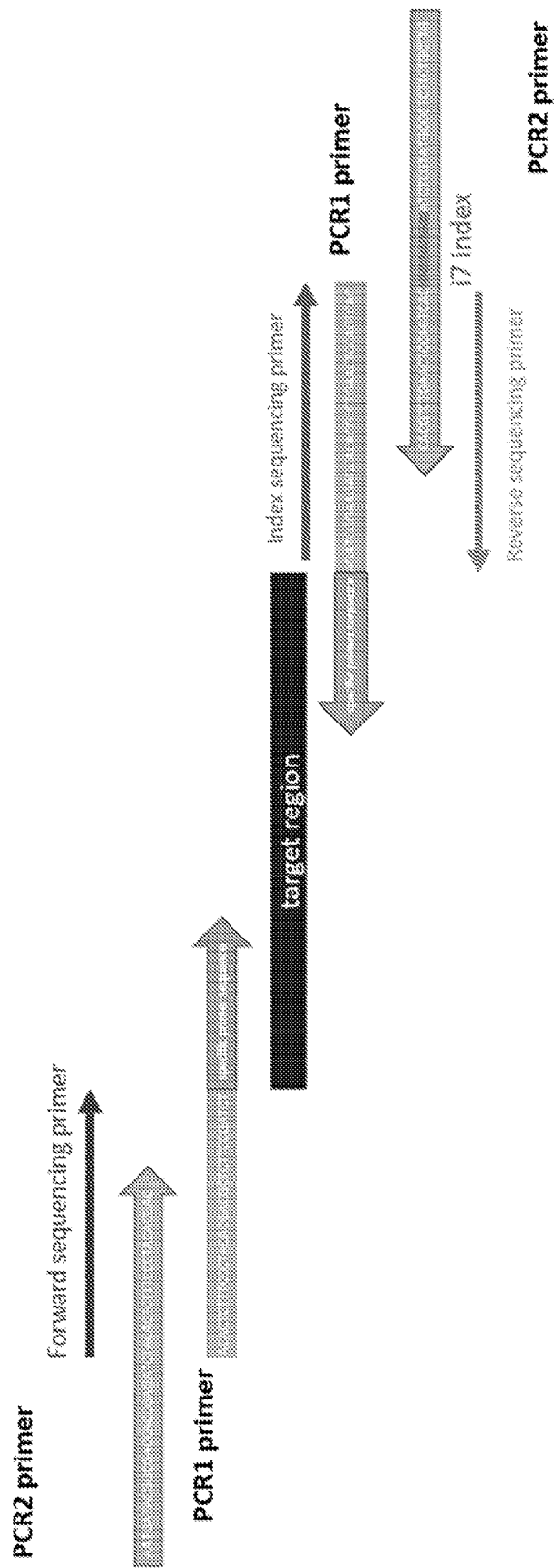


Figure 45

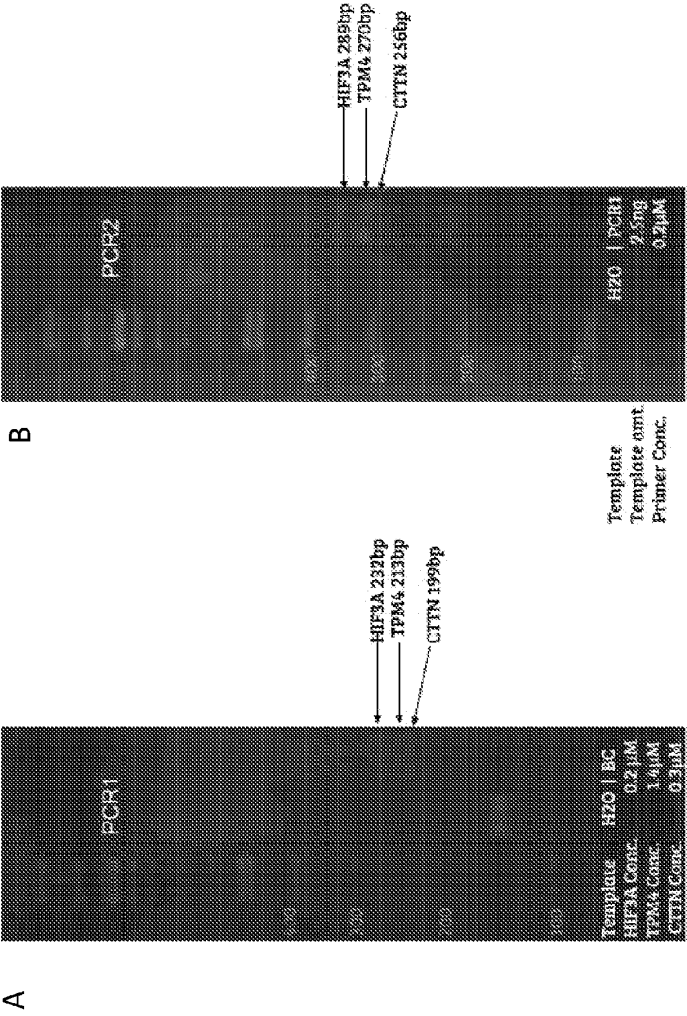


Figure 46

Bioinformatics workflow

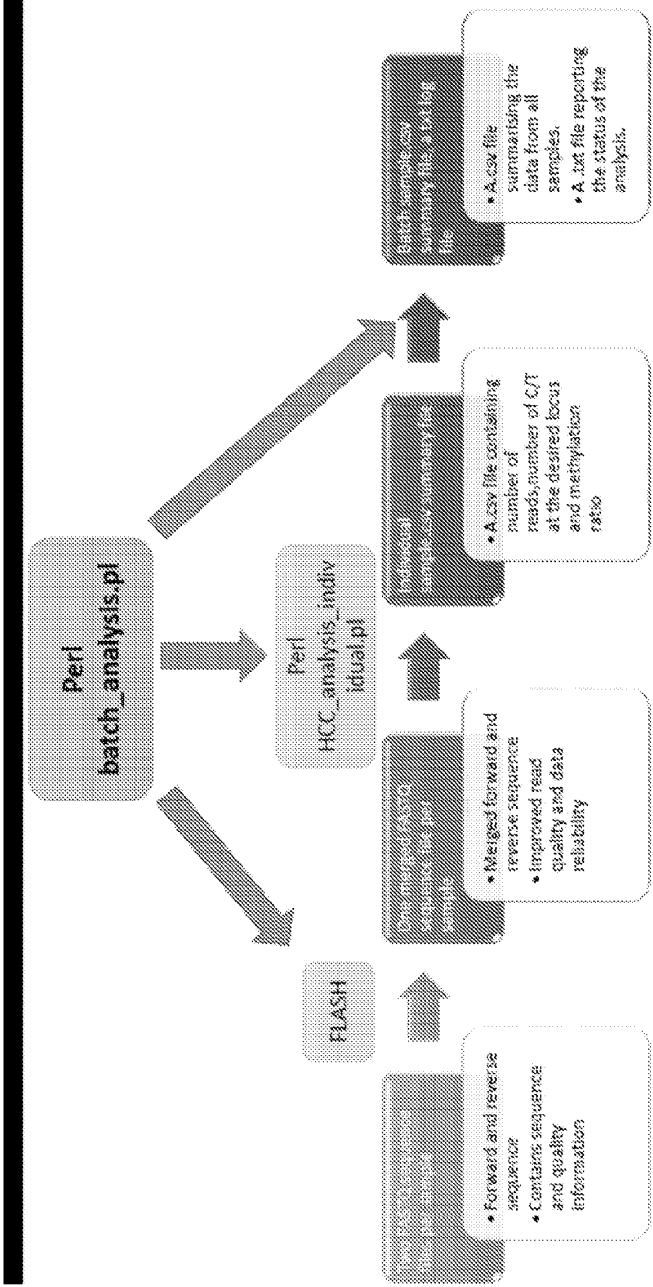


Figure 47