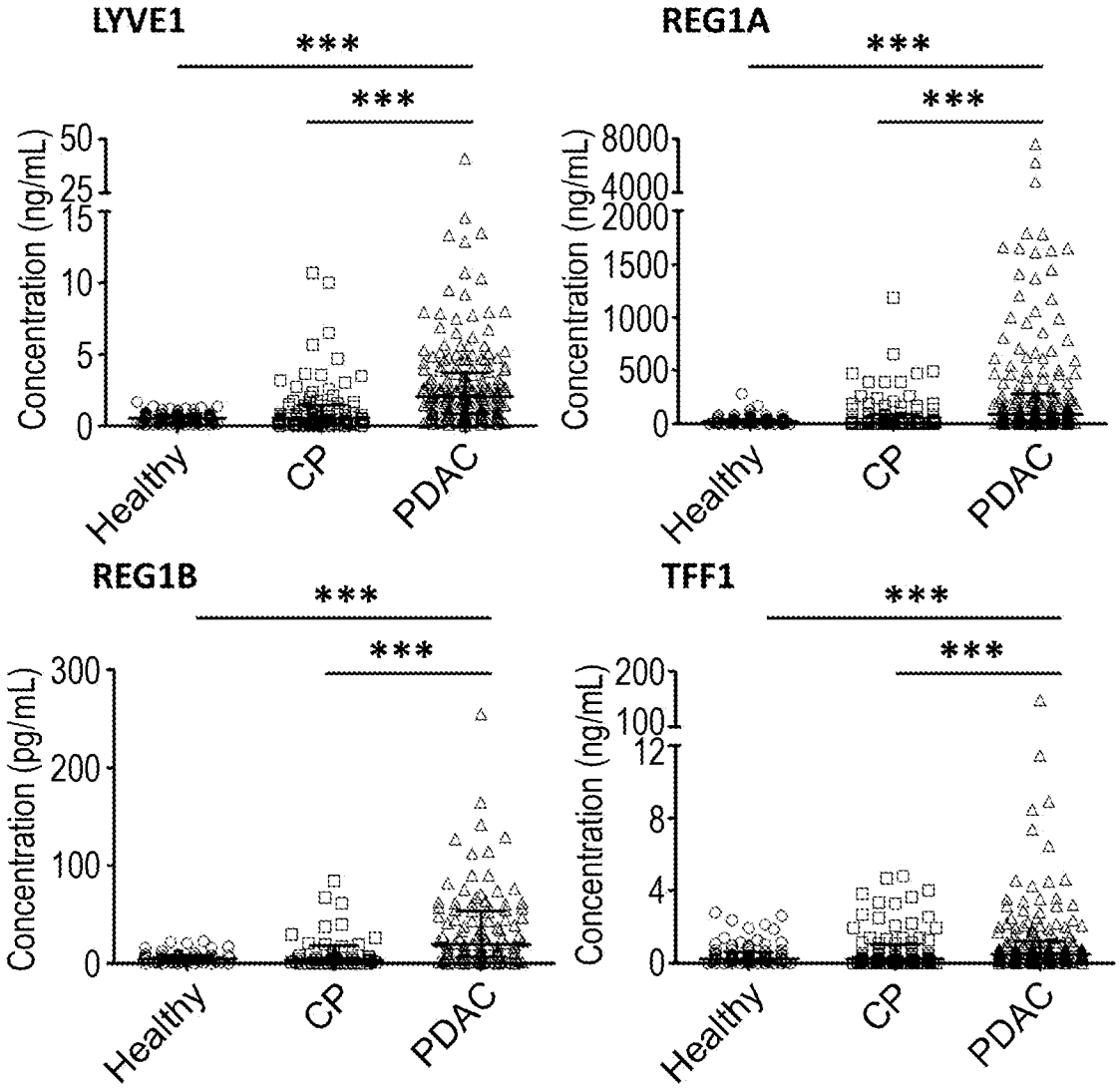

Fig. 1A

Urine		Healthy (n=87)	CP (n=92)	PDAC (n=192)
	LYVE1	3.2 (5.3) / 0.51 (0.52)	4.5 (9.6) / 0.49 (1.19)	11.9 (16.5) / 2.04 (2.84)
	REG1A	113.8 (261.8) / 16.3 (27.7)	127.8 (349.9) / 14.8 (85.4)	546.4 (1648.5) / 92.9 (242.7)
	REG1B	31.1 (62.6) / 4.4 (6.2) (n=51)	45.3 (104.4) / 4.2 (14.9) (n = 42)	124.2 (217.1) / 19.7 (46.0) (n=107)
	TFF1	2.2 (3.3) / 0.23 (0.46)	2.8 (5.6) / 0.25 (0.80)	3.7 (4.9) / 0.51 (0.91)
	Creatinine	8.4 (6.3) / na	7.7 (8.2) / na	6.5 (6.8) / na
Plasma		Healthy (n=28)	CP (n=50)	PDAC (n=147)
	CA19.9	8.7 (7.6) / na	21.5 (38.1) / na	399.0 (1281.2) / na

Fig. 1B

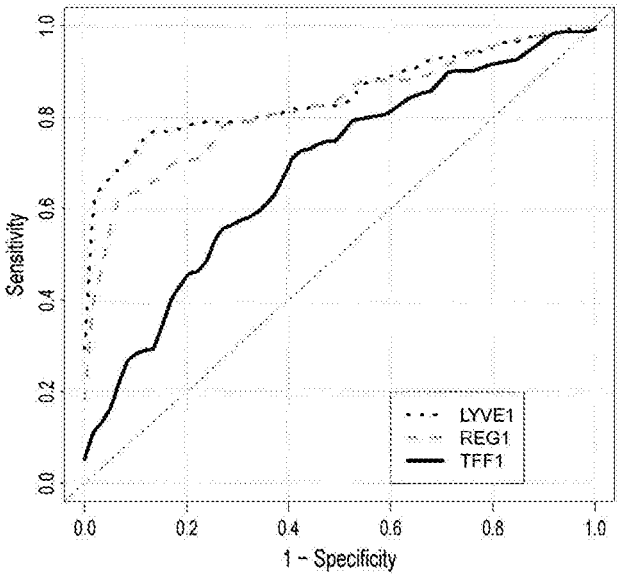

Fig. 2A

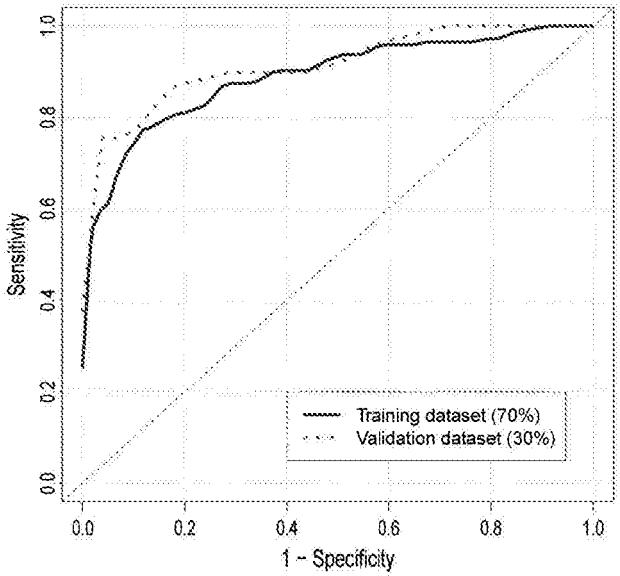

Fig. 2B

Samples	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
Training set (70%)	**LYVE1** (cnorm)	0.851 (0.801 - 0.902)	76.9 (69.3 – 83.2)	88.1 (79.6 – 96.6)
	REG1A (cnorm)	0.823 (0.766 - 0.879)	62.2 (53.8 – 69.9)	94.9 (88.1 – 100.0)
	TFF1 (cnorm)	0.686 (0.606 - 0.765)	72.7 (65.0 - 79.7)	59.3 (47.5 - 71.2)
	Panel (+ creat + age)	0.891 (0.847 - 0.935)	76.9 (69.9 – 83.2)	89.8 (81.3 – 96.6)
Validation set (30%)	**Panel** (+ creat + age)	0.921 (0.863 - 0.978)	75.5 (63.3 – 87.8)	100 (100.0 – 100.0)

Fig. 2C

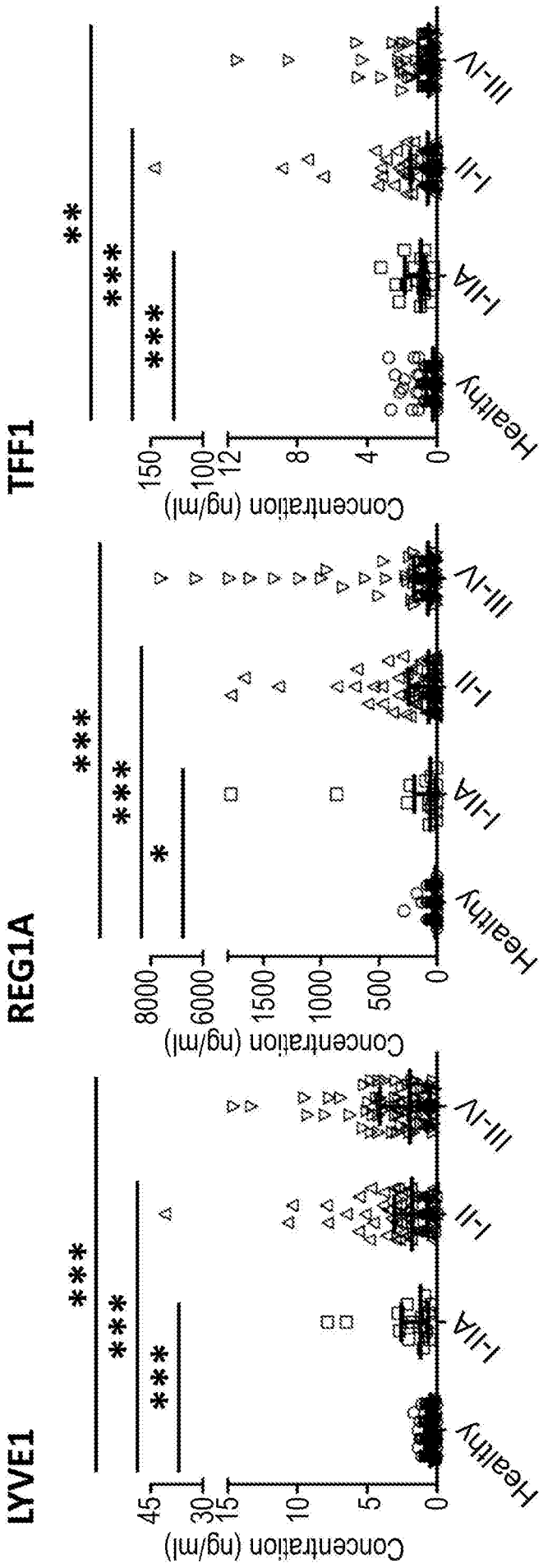
LYVE1
REG1A
TFF1
Concentration (ng/ml)
Healthy
I-IIA
I-II
III-IV
****
***
**
*

Fig. 3

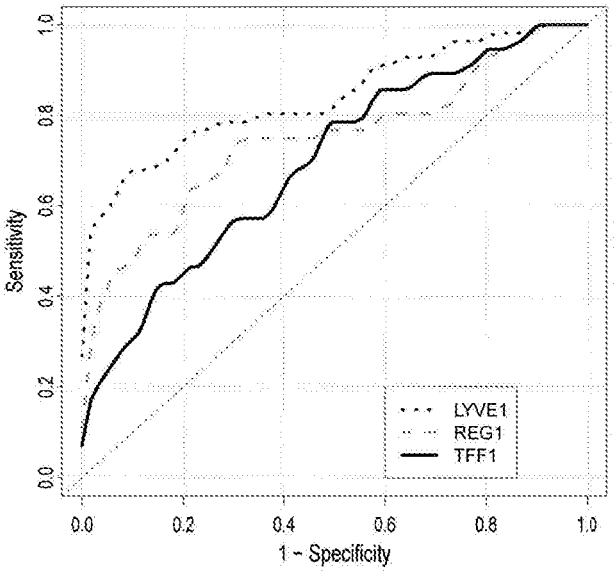

Fig. 4A

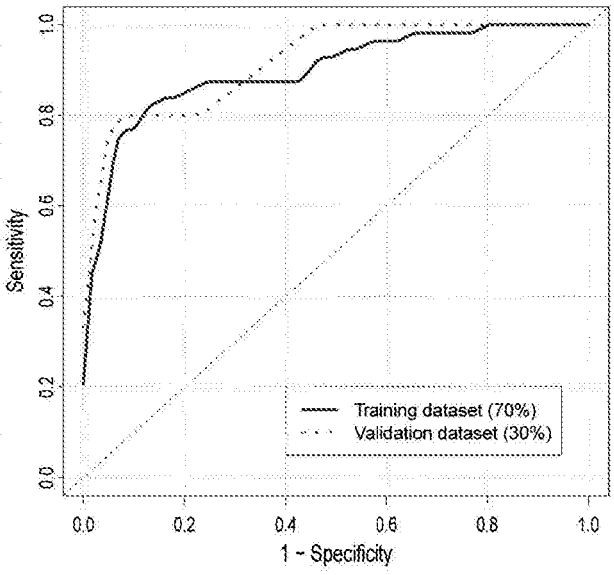

Fig. 4B

Samples	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
Training set (70%)	**LYVE1** (cnorm)	0.840 (0.767 - 0.914)	67.9 (55.3 – 78.6)	91.8 (83.6 – 98.4)
	REG1A (cnorm)	0.748 (0.656 - 0.839)	75.0 (64.3 – 85.7)	68.9 (57.4 – 80.3)
	TFF1 (cnorm)	0.696 (0.601 - 0.790)	78.6 (67.8 – 89.3)	52.5 (41.0 – 63.9)
	Panel (+ creat + age)	0.900 (0.843 - 0.957)	82.1 (71.4 – 91.1)	88.5 (80.3 – 95.1)
Validation set (30%)	**Panel** (+ creat + age)	0.926 (0.843 – 1.000)	80.0 (60.0 – 100.0)	76.9 (61.5 – 92.3)

Fig. 4C

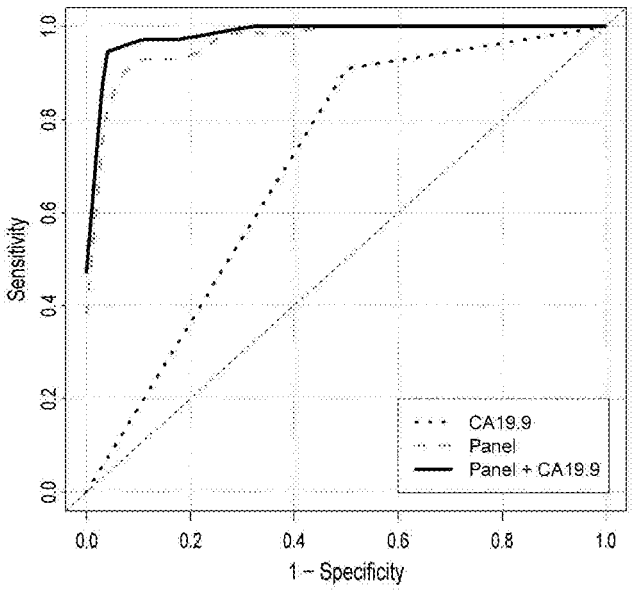

Fig. 5A

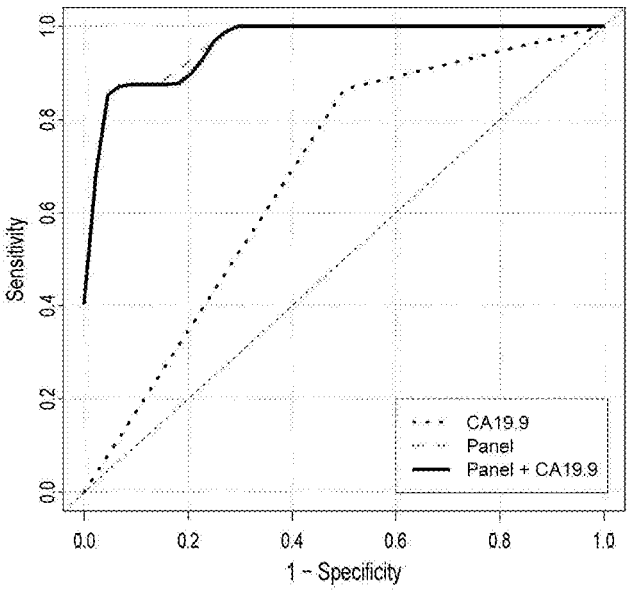

Fig. 5B

	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
PDAC I-II vs Healthy				
	Plasma CA19.9 (37U/mL)	0.880 (0.814 - 0.945)	83.1 (74.6 – 91.6) ^	92.9 (82.1 - 100) ^
	Panel	0.973 (0.947 - 0.999) +	93.0 (85.9 – 98.6)	92.9 (82.1 – 100.0)
	Panel + Plasma CA19.9 (37U/mL)	0.991 (0.979 - 1.000) $	94.4 (88.7 – 98.6)	100.0 (100 .0 – 100.0)
PDAC I-IIA vs Healthy				
	Plasma CA19.9 (37U/mL)	0.839 (0.719 - 0.959)	75.0 (56.3 – 93.8)	92.9 (82.1 – 100.0)
	Panel	0.971 (0.929 - 1.000) ++	87.5 (68.8 – 100.0)	96.4 (89.3 – 100.0)
	Panel + Plasma CA19.9 (37U/mL)	0.969 (0.924 - 1.000) $$	87.5 (68.8 – 100.0)	96.4 (89.3 – 100.0)

Fig. 5C

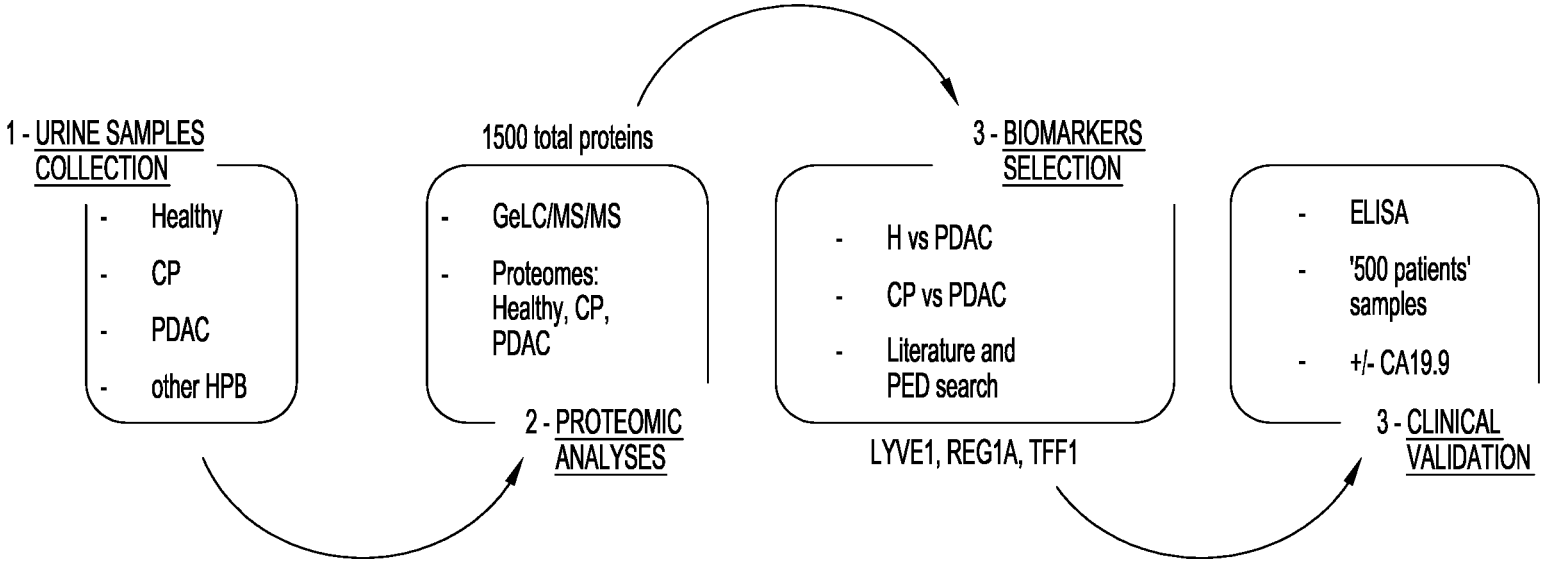

Fig. 6A

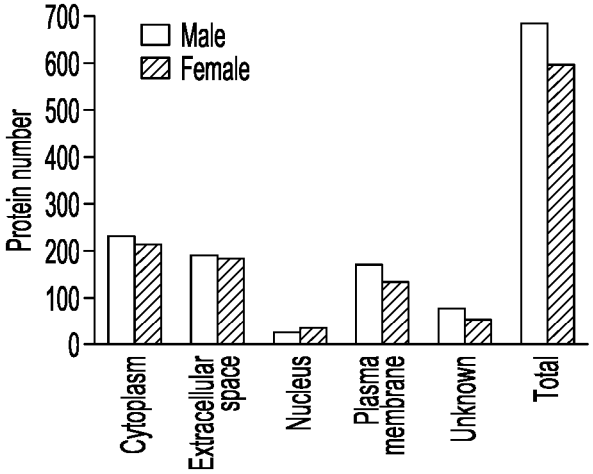

Fig. 6B

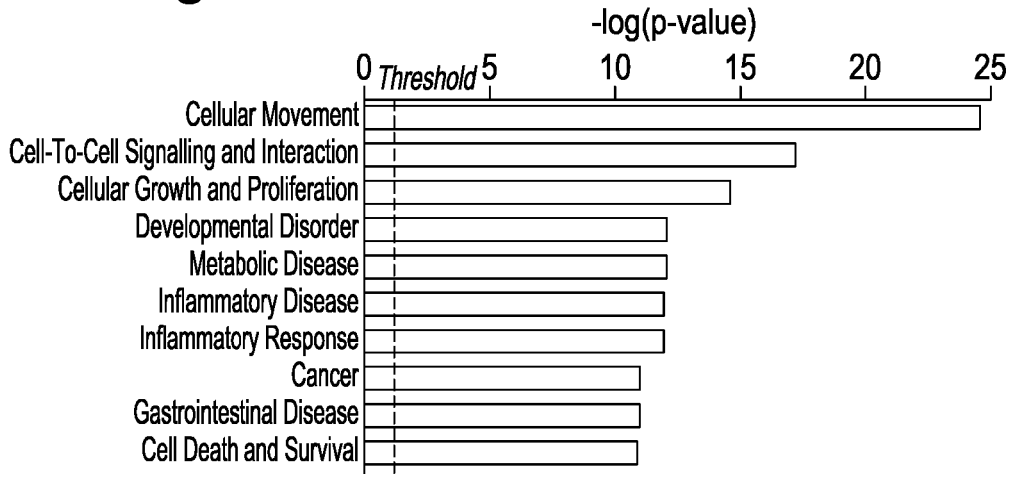

Fig. 6C

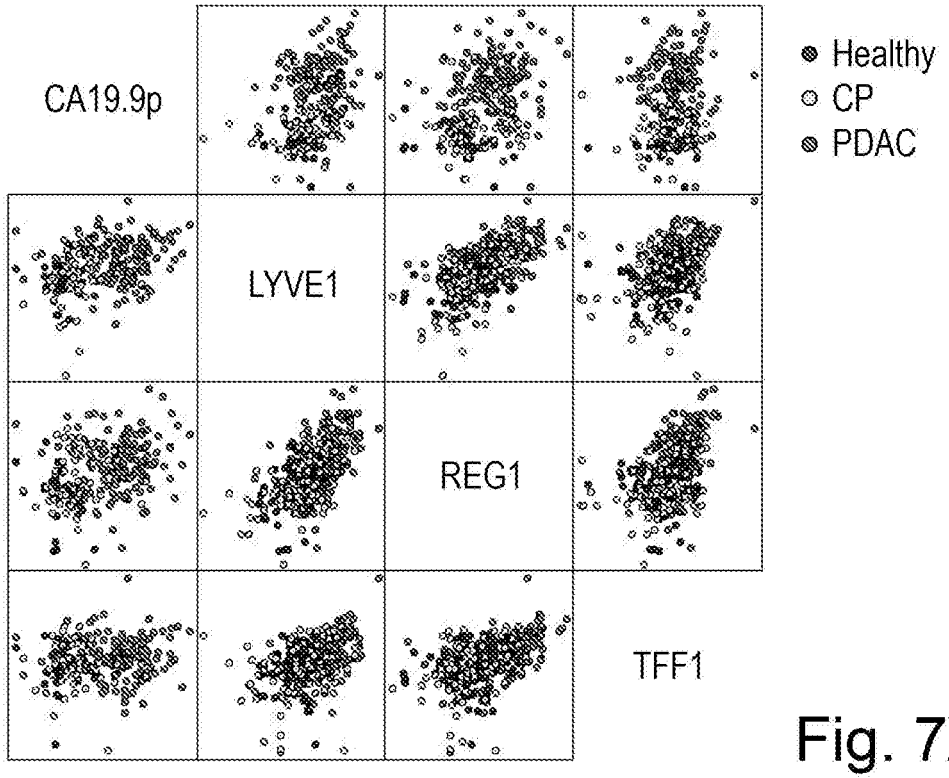

Fig. 7A

		CA19.9p	LYVE1	REG1A
Healthy				
	LYVE1	-0.15 (NS)		
	REG1A	-0.38*	0.35***	
	TFF1	-0.12 (NS)	0.0004 (NS)	0.07 (NS)
CP				
	LYVE1	0.17 (NS)		
	REG1A	0.12 (NS)	0.61***	
	TFF1	-0.13 (NS)	0.25*	0.35***
PDAC				
	LYVE1	0.13 (NS)		
	REG1A	0.18*	0.53***	
	TFF1	0.03 (NS)	0.51***	0.51***

Fig. 7B

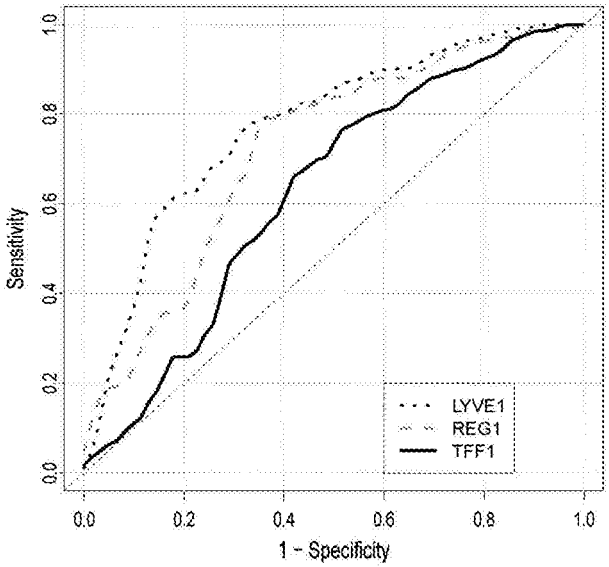

Fig. 8A

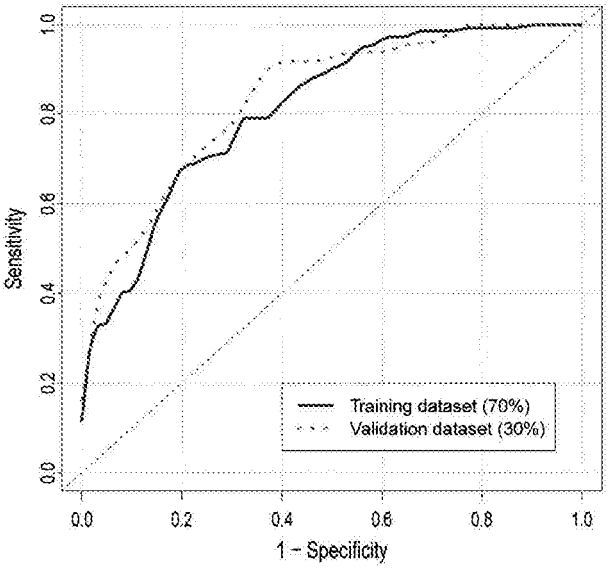

Fig. 8B

Samples	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
Training set (70%)	**LYVE1** (cnorm)	0.775 (0.704 - 0.846)	76.9 (69.9 – 83.2)	69.4 (58.1 – 80.7)
	REG1A (cnorm)	0.722 (0.643 - 0.801)	78.3 (71.3 – 84.6)	66.1 (54.8 – 77.4)
	TFF1 (cnorm)	0.629 (0.540 - 0.717)	76.2 (68.5 – 83.2)	50.0 (37.1 – 61.3)
	Panel (+ creat + age)	0.815 (0.752 - 0.878)	68.5 (60.1 – 76.2)	80.6 (71.0 – 90.3)
Validation set (30%)	**Panel** (+ creat + age)	0.839 (0.751 - 0.928)	67.4 (53.1 – 79.6)	80.0 (63.3 – 93.3)

Fig. 8C

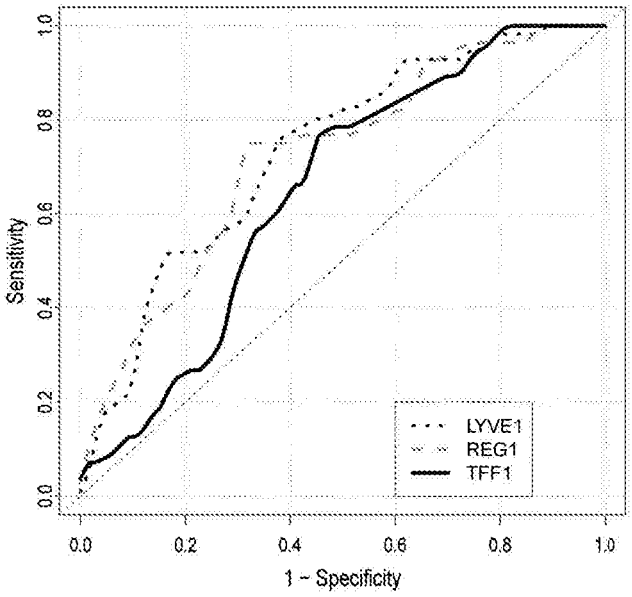

Fig. 8D

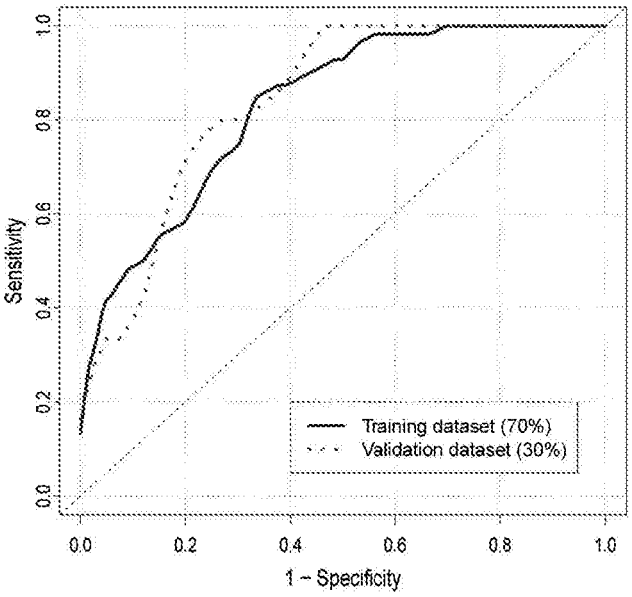

Fig. 8E

Samples	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
Training set (70%)	**LYVE1** (cnorm)	0.732 (0.644 - 0.821)	76.8 (66.1 – 87.5)	62.1 (50.0 – 74.3)
	REG1A (cnorm)	0.723 (0.633 - 0.813)	75.0 (62.5 – 85.7)	69.7 (57.6 – 80.3)
	TFF1 (cnorm)	0.650 (0.553 - 0.748)	76.8 (64.3 – 87.5)	56.1 (43.9 – 68.2)
	Panel (+ creat + age)	0.831 (0.762 - 0.901)	85.7 (75.0 – 94.6)	66.7 (56.1 – 78.8)
Validation set (30%)	**Panel** (+ creat + age)	0.846 (0.730 - 0.963)	100.0 (100.0 – 100.0)	50.0 (30.8 – 69.2)

Fig. 8F

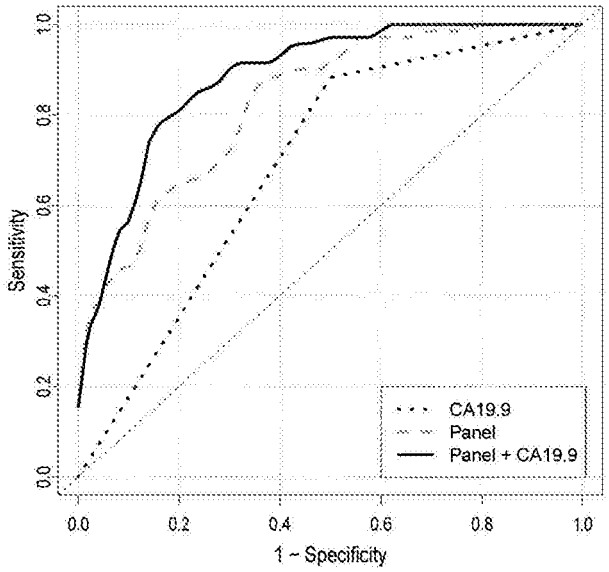

Fig. 9A

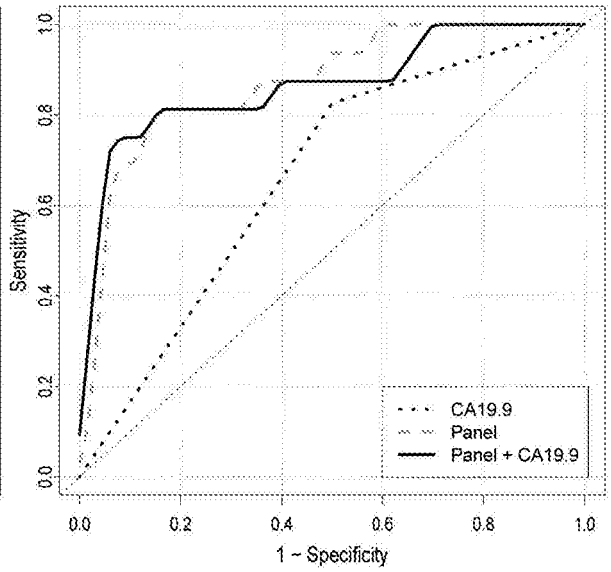

Fig. 9B

	Biomarkers	AUC (95% CI)	% SN (95% CI) at optimal cutpoint	% SP (95% CI) at optimal cutpoint
CP vs PDAC I-II				
	Plasma CA19.9 (37U/mL)	0.775 (0.699 - 0.852)	83.1 (74.6 – 91.6) ^	72.0 (60.0 – 84.0) ^
	Panel	0.830 (0.759 - 0.902) +	87.3 (78.8 – 94.4)	66.0 (52.0 – 78.0)
	Panel + Plasma CA19.9 (37U/mL)	0.885 (0.825 - 0.945) $	77.5 (67.6 – 87.3)	86.0 (76.0 – 94.0)
CP vs PDAC I-IIA				
	Plasma CA19.9 (37U/mL)	0.735 (0.609 - 0.861)	75.0 (56.3 – 93.8)	72.0 (60.0 – 84.0)
	Panel	0.871 (0.770 - 0.972) ++	81.2 (62.5 – 100.0)	86.0 (76.0 – 94.0)
	Panel + Plasma CA19.9 (37U/mL)	0.866 (0.749 - 0.984) $$	75.0 (56.3 – 93.8)	94.0 (88.0 – 100.0)

Fig. 9C

	IPMN	AMP	NET	CHL	DuCa
Cases (n)	33	26	18	24	16
Gender	M=21	M=13	M=9	M=17	M=4
	F=12	F=13	F=9	F=7	F=12
Age range (Median)	27 - 83 (66)	41 - 78 (68)	42 - 78 (63)	20 – 79 (64)	46 – 77 (65)

Fig. 10A

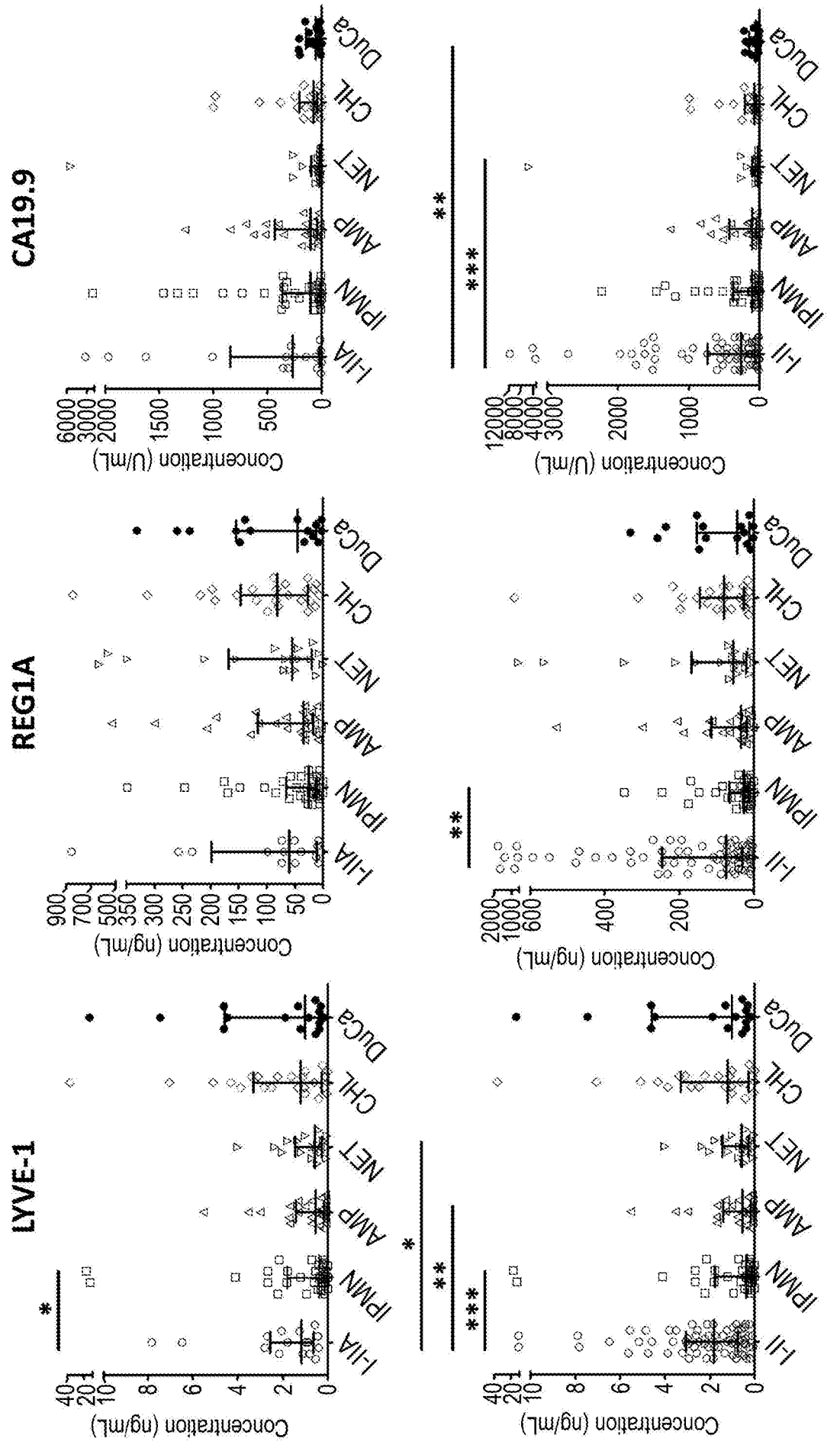
LYVE-1
REG1A
CA19.9
Concentration (ng/mL)
Concentration (U/mL)
I-IIA
IPMN
AMP
NET
CHL
DuCa
I-II
*
**
***

Fig. 10B

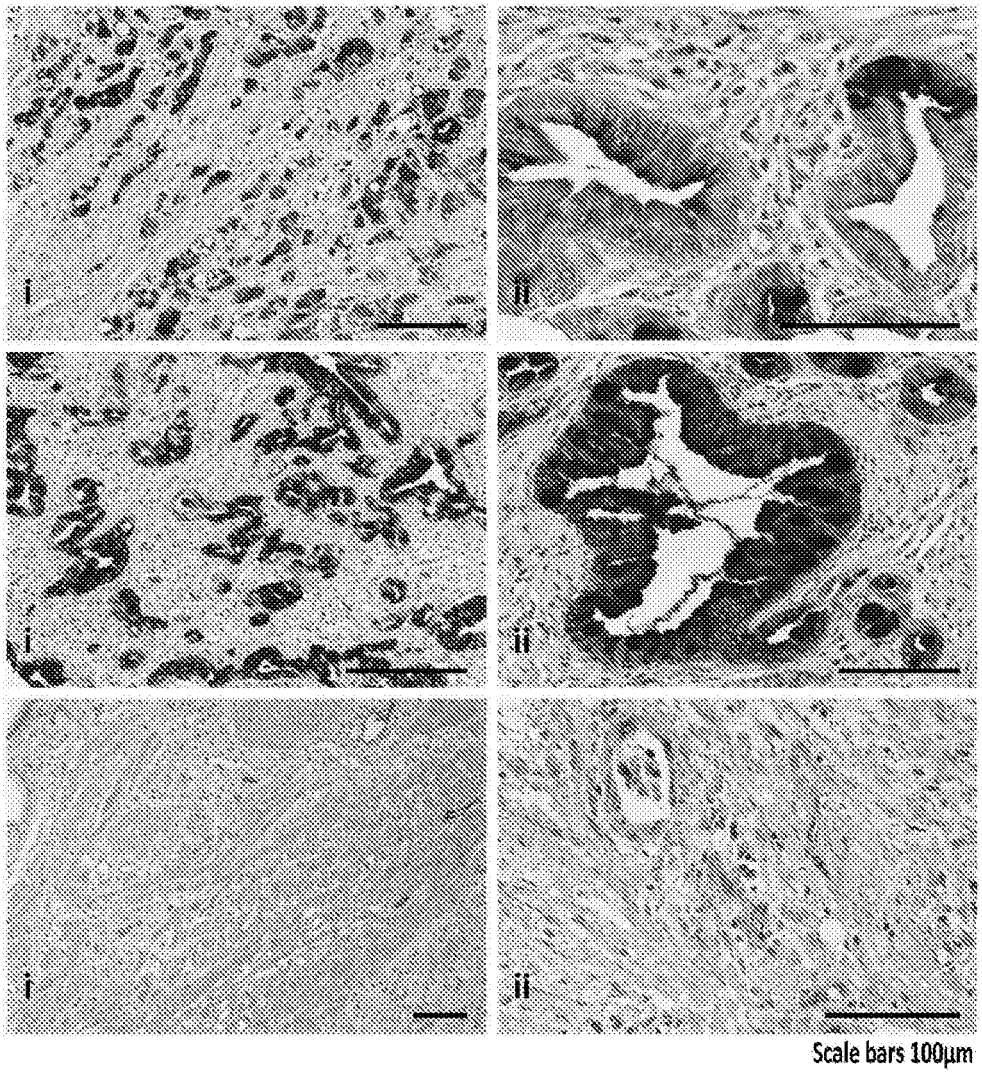

Fig. 11A

Fig. 11B

Fig. 11C

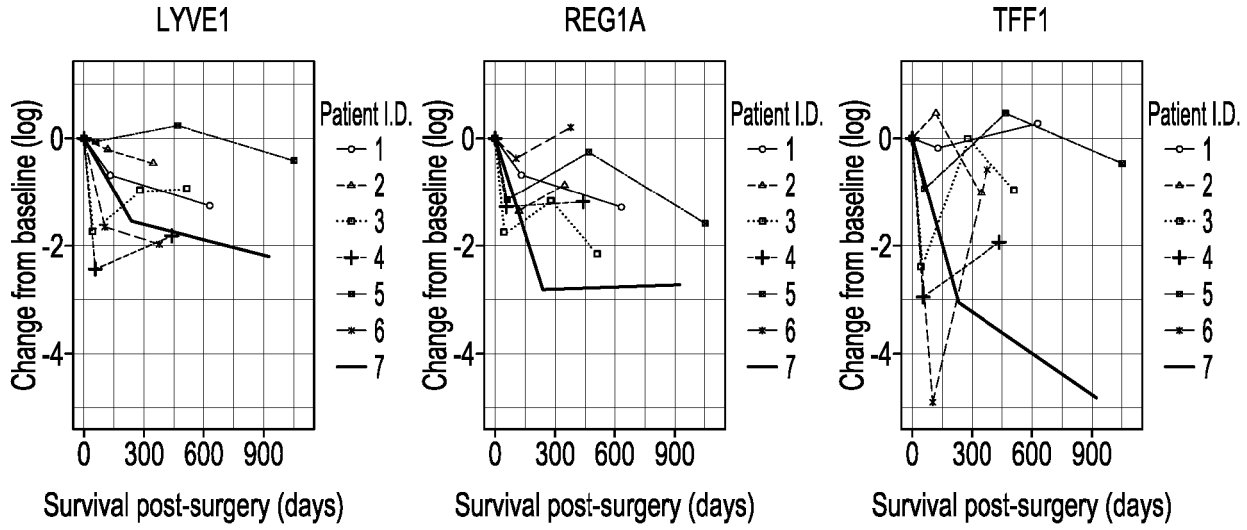

Fig. 11D