

Genetic and metabolic comparison of orthotopic and heterotopic patient-derived pancreatic-cancer xenografts to the original patient tumors

SUPPLEMENTARY MATERIALS

Supplementary Table 1: Host and tumor characteristics of patient for PDX establishment

Case No.	PDOX/PDHX formation	Age/Sex	OP	Tumor size (cm)	Differentiation	pT/N/Mstage	p53	C-erbB2	DPC4	Histology
1	O/O	57 / F	PD	2.8	Mod	3/1/0	3+	2+	1+	pancreatic ductal adenocarcinoma
2	X/O	59 / M	PD	2.9	Mod	3/1/0	3+	neg	2+	pancreatic ductal adenocarcinoma
3	O/X	73 / F	PD	3.7	Mod	3/1/0	neg	neg	neg	pancreatic ductal adenocarcinoma
4	O/O	67 / F	PD	3.5	Wel	3/1/0	1+	neg	neg	pancreatic ductal adenocarcinoma
5	O/O	60 / F	PD	2.8	Mod	3/1/0	3+	neg	2+	pancreatic ductal adenocarcinoma
6	X/X	53 / F	DP	3.7	Mod	3/1/0	3+	neg	neg	pancreatic ductal adenocarcinoma
7	O/O	53 / F	PD	3.2	Mod	3/1/0	neg	neg	neg	pancreatic ductal adenocarcinoma
8	X/O	68 / M	PD	2.2	Mod	3/1/0	3+	1+	1+	pancreatic ductal adenocarcinoma
9	O/O	50 / M	PD	2.3	Mod	3/0/0	3+	neg	neg	pancreatic ductal adenocarcinoma
10	X/X	62 / M	PD	2.2	Mod	3/1/0	2+	1+	neg	pancreatic ductal adenocarcinoma
11	O/X	50 / M	PD	3	Mod	3/1/0	2+	neg	neg	pancreatic ductal adenocarcinoma
12	O/O	60 / M	PD	4.1	Por	3/1/0	neg	neg	neg	pancreatic ductal adenocarcinoma
13	X/X	74 / M	PD	4	Mod	3/1/0	neg	2+	2+	pancreatic ductal adenocarcinoma
14	O/O	73 / F	DP	5.4	Mod	3/1/0	3+	1+	1+	pancreatic ductal adenocarcinoma
15	O/O	70 / F	PD	1.7	Mod	3/1/0	3+	neg	neg	pancreatic ductal adenocarcinoma
16	O/O	58 / F	PD	3.5	Mod	3/1/0	3+	neg	1+	pancreatic ductal adenocarcinoma
17	O/O	60 / M	DP	4.9	Mod	3/0/1	3+	neg	1+	pancreatic ductal adenocarcinoma
18	X/O	73 / F	PD	3.6	Mod	3/1/0	3+	neg	3+	pancreatic ductal adenocarcinoma
19	X/O	68 / F	PD	3.1	Mod	3/0/0	2+	neg	neg	pancreatic ductal adenocarcinoma
20	O/O	54 / F	DP	2.9	Mod	3/1/0	1+	1+	neg	pancreatic ductal adenocarcinoma
21	X/X	66 / M	PD	3.1	Mod	3/1/0	neg	1+	2+	pancreatic ductal adenocarcinoma
22	O/O	61 / F	PD	4.5	Mod	3/0/0	neg	neg	neg	pancreatic ductal adenocarcinoma
23	O/X	50 / M	PD	3	Mod	3/1/0	3+	neg	neg	pancreatic ductal adenocarcinoma
24	O/O	53 / M	DP	5	Por	3/0/1	neg	neg	neg	pancreatic ductal adenocarcinoma
25	O/O	75 / F	DP	2.8	Mod	3/1/0	3+	neg	3+	pancreatic ductal adenocarcinoma

(OP, operation; PD, pancreaticoduodenectomy; DP, distal pancreatectomy; Wel, well differentiated; Mod, moderate differentiated; Por, poor differentiated; DPC4, deleted in pancreatic carcinoma locus 4. * All of the metastases were liver metastasis.

Supplementary Table 2: SNPs of BRCA2/NBEA among human and PDXs in Group No.7. See_ Supplementary_Table 2

Supplementary Table 3: SNPs of HIVEP1/SDK2/SMAD3/SPTB among human and PDXs in Group No.16. See_ Supplementary_Table 3

Supplementary Table 4: Comparative analysis of the DNA methylation of patient derived xenograft in cancer related genes

Gene	No. of methylation site	PDOX / human			PDHX / human		
		Unchanged	changed		Unchanged	changed	
			Hyper-methylation	Hypo-methylation		Hyper-methylatoin	Hypo-methylation
ACVR2A	19	19	0	0	19	0	0
APC	40	36	0	4	34	0	6
ARID1A	29	27	2	0	27	2	0
ATM	59	55	4	0	59	0	0
BCORL1	20	19	0	1	20	0	0
BRCA1	52	52	0	0	49	0	3
BRCA2	19	19	0	0	19	0	0
CALD1	57	52	0	5	50	0	7
CDKN2A	7	1	6	0	4	3	0
DISP2	18	17	0	1	16	0	2
FBLN2	50	43	0	7	46	0	4
FBXW7	22	22	0	0	22	0	0
HIVEP1	27	27	0	0	27	0	0
ITPR3	50	48	0	2	46	0	4
JAG1	24	23	1	0	24	0	0
KALRN	67	62	0	5	60	0	7
KDM6A	15	15	0	0	15	0	0
KRAS	34	33	0	1	33	0	1
MACF1	87	78	2	7	77	1	9
MAP2K4	25	25	0	0	25	0	0
MLL3	24	23	1	0	22	2	0
MYCBP2	19	19	0	0	19	0	0
NBEA	58	57	1	0	57	0	1
NF2	19	19	0	0	19	0	0
PBRM1	18	15	3	0	17	1	0
PLXNB2	45	45	0	0	34	0	11
PTEN	63	62	1	0	62	0	1
RBM10	29	29	0	0	29	0	0
RNF43	11	8	1	2	7	1	3
SDK2	68	65	0	3	63	1	4
SETD2	24	24	0	0	24	0	0
SF3B1	17	17	0	0	17	0	0
SIN3B	18	18	0	0	17	0	1
SMAD3	58	53	0	5	53	0	5
SMAD4	15	12	3	0	14	1	0
SMARCA4	44	43	0	1	42	0	2
SPTB	33	31	0	2	31	0	2
TGFBR1	10	8	0	2	7	1	2
TGFBR2	37	33	1	3	33	1	3
TLE4	16	16	0	0	15	1	0
TP53	38	32	6	0	37	0	1
TP53BP2	20	19	1	0	20	0	0
U2AF1	20	20	0	0	20	0	0
Total (%)	1425 (100%)	1341 (94.1%)	33 (2.3%)	51 (3.6%)	1331 (93.4%)	15 (1.1%)	79 (5.5%)

(X, unchanged ; O, changed ; +, hypermethylation ; -, hypomethylation)