

# PROTEOMICS

## Supporting Information for Proteomics

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**Identification of blood-protein carriers of the CA 19-9 antigen and character-  
ization of prevalence in pancreatic diseases**

Supplementary Tables, Yue et al., CA 19-9 Protein Carriers

<b>VAI #</b>	<b>Antibody</b>	<b>Source</b>	<b>Cat.No</b>
341	anti-CA19-9 (1B.844)	Usbiological	C0075-07
340	anti-MUC1 (CA15-3)	Usbiological	C0050-23
684	anti-MUC1 (SM3)	Abcam	ab22711
1093	anti-MUC1 (CM1)	GeneTex	GTX10114
1094	anti-HMFG (2Q437)	USBiological	M3897-08
1095	anti-MUC1 (695)	Acris	BM3359
829	anti-MUC5ac (CLH2)	Chemicon	MAB2011
831	anti-MUC5ac (45M1 )	Biogenesis	1695-0128
1091	anti-MUC5ac (1-13M1)	Thermo Scientific	MS-551-PABX
1092	anti-MUC5ac (2-12M1)	AbD SeroTec	0200-0557
1251	anti-MUC5ac (2-11M1)	ABR	MA1-35704
339	anti-MUC16 (CA125)	Usbiological	C0050-01
830	anti-MUC16 (x325)	Abcam	ab10033
1098	anti-MUC16 (x306)	Novus Biologicals	NB120-10032
1099	anti-MUC16 (1.B.826_C domain)	USBiological	C0050-05
1270	anti-Apolipoprotein B (7B8)	Abcam	ab39560
1271	anti-Apolipoprotein E	GeneTex	GTX27620
1272	anti-ARVCF (5D2)	GeneTex	GTX92316
1224	anti-Kininogen	Temple University	N/A
954	anti-high molecular weight Kininogen	QED Bioscience Inc	20001(C11C1)

Table s1. The antibodies used for the immunoprecipitation and antibody array experiments.

Exp #	Early-stage cancer*	volume ( $\mu$ l)	Late-stage cancer*	volume ( $\mu$ l)	Benign*	volume ( $\mu$ l)	Healthy*	volume ( $\mu$ l)
1	998	20	991	20	1001	20		
	1027	20	1015	20	1009	20		
	3348	20	1040	20	1024	20		
	3350	20	1042	20	1026	20		
	3361	20	1062	20	1043	20		
	3366	8			1045	8		
	3367	20			1063	3		
	3371	10						
2	994	10	980	20	695	15	985	14
	996	10	1003	10	1014	20	1018	5
	3346	20	1030	10	1023	5	1036	17
	3347	10	1052	20	1025	7	1041	20
	3349	10	1410	20	1046	20	1049	17
	3353	10	1419	20	1306	20	1053	17
	3365	20			1312	20	1056	10
	3368	10			1422	20	1067	20
3379	20					1396	20	
3	Pool #1	35	Pool #1	28	Pool #1	20	Pool #1	0
	Pool #2	5	Pool #2	12	Pool #2	20	Pool #2	40

Table s2. Samples used in the pools. An internal ID number is used to indicate each unique sample used in each pool.

Key word	Accession	Gene symbol
ANKRD20	IPI:IPI00020265.3	ANKRD20A1 Ankyrin repeat domain-containing protein 20A1
	IPI:IPI00930540.1	ANKRD20A2 ANKRD20A2 protein
	IPI:IPI00644106.1	ANKRD20A2 Ankyrin repeat domain-containing protein 20A2
	IPI:IPI00478457.1	ANKRD20A3 Ankyrin repeat domain-containing protein 20A3
	IPI:IPI00552956.2	ANKRD20A4 Ankyrin repeat domain-containing protein 20A4
	IPI:IPI00889596.1	ANKRD20B Isoform 1 of Ankyrin repeat domain-containing protein 20B
BCORL1	IPI:IPI00478693.3	ANKRD20B Similar to Ankyrin repeat domain 20 family, member A1
	IPI:IPI00844087.1	BCORL1 Isoform 1 of BCoR-like protein 1
	IPI:IPI00386077.4	BCORL1 Isoform 2 of BCoR-like protein 1
Complement C4	IPI:IPI00329707.7	BCORL1 Isoform 3 of BCoR-like protein 1
	IPI:IPI00032258.4	C4A Complement C4-A
	IPI:IPI00889723.1	C4A complement component 4A preproprotein
	IPI:IPI00643525.1	C4A Putative uncharacterized protein C4A
	IPI:IPI00654875.1	C4B Complement C4-B
	IPI:IPI00418163.3	C4B;C4A complement component 4B preproprotein
C4BPA	IPI:IPI00892604.1	C4B;C4A Complement component C4B (Childo blood group) 2
	IPI:IPI00021727.1	C4BPA C4b-binding protein alpha chain
CABP4	IPI:IPI00872510.1	C4BPA Putative uncharacterized protein C4BPA
	IPI:IPI00028089.2	CABP4 Isoform 1 of Calcium-binding protein 4
C6orf132	IPI:IPI00166824.1	CABP4 Isoform 2 of Calcium-binding protein 4
	IPI:IPI00896427.1	C6orf132 Isoform 1 of Uncharacterized protein C6orf132
CAPRIN2	IPI:IPI00793352.2	CAPRIN2 27 kDa protein
	IPI:IPI00419832.2	CAPRIN2 76 kDa protein
	IPI:IPI00942074.1	CAPRIN2 C1q domain containing 1 isoform 3
	IPI:IPI00855955.1	CAPRIN2 Isoform 1 of Caprin-2
	IPI:IPI00855878.2	CAPRIN2 Isoform 2 of Caprin-2
	IPI:IPI00855852.2	CAPRIN2 Isoform 3 of Caprin-2
	IPI:IPI00855828.1	CAPRIN2 Isoform 4 of Caprin-2
	IPI:IPI00855991.1	CAPRIN2 Isoform 7 of Caprin-2
	IPI:IPI00154829.3	CAPRIN2 Isoform 9 of Caprin-2
CLU	IPI:IPI00291262.3	CLU Isoform 1 of Clusterin
	IPI:IPI00400826.1	CLU Isoform 2 of Clusterin
DAPK	IPI:IPI00647417.1	DAPK3 22 kDa protein
	IPI:IPI00015213.1	DAPK3 Death-associated protein kinase 3
FCGBP	IPI:IPI00941166.1	FCGBP 148 kDa protein
	IPI:IPI00940916.1	FCGBP 176 kDa protein
	IPI:IPI00242956.5	FCGBP IgGfC-binding protein
Fibronectin 1	IPI:IPI00873210.1	FN1 263 kDa protein
	IPI:IPI00845263.1	FN1 fibronectin 1 isoform 2 preproprotein
	IPI:IPI00339224.2	FN1 fibronectin 1 isoform 4 preproprotein
	IPI:IPI00022418.1	FN1 Isoform 1 of Fibronectin
	IPI:IPI00339319.1	FN1 Isoform 11 of Fibronectin
	IPI:IPI00556632.3	FN1 Isoform 12 of Fibronectin
	IPI:IPI00867588.1	FN1 Isoform 13 of Fibronectin
	IPI:IPI00855777.1	FN1 Isoform 14 of Fibronectin
	IPI:IPI00855785.1	FN1 Isoform 15 of Fibronectin
	IPI:IPI00339223.1	FN1 Isoform 3 of Fibronectin
	IPI:IPI00339225.1	FN1 Isoform 5 of Fibronectin
	IPI:IPI00339226.1	FN1 Isoform 6 of Fibronectin
	IPI:IPI00339227.4	FN1 Isoform 7 of Fibronectin
	IPI:IPI00339228.1	FN1 Isoform 8 of Fibronectin
	IPI:IPI00414283.6	FN1 Isoform 9 of Fibronectin
ICA1L	IPI:IPI00179047.1	ICA1L Isoform 1 of Islet cell autoantigen 1-like protein
	IPI:IPI00719241.1	ICA1L Isoform 2 of Islet cell autoantigen 1-like protein
IFNA8	IPI:IPI00031075.1	IFNA8 Interferon alpha-8
LBP	IPI:IPI00032311.4	LBP Lipopolysaccharide-binding protein
LGALS3BP	IPI:IPI00023673.1	LGALS3BP Galectin-3-binding protein
Lamin-B2	IPI:IPI00879819.1	LMNB2 Lamin-B2
Mucin-19	IPI:IPI00896516.1	MUC19 Isoform 1 of Mucin-19
	IPI:IPI00829833.2	MUC19 Isoform 2 of Mucin-19

Table s3. Proteins identified as potential carriers of the CA 19-9 antigen.

Type	Exp #	N	Unused	Total	%Cov(95)	Accession	Name	Peptides(95%)
Late cancer pool	Exp#3	5	7.8	7.8	17.67	IPI:IPI00021842.1	APOE Apolipoprotein E	4
Benign pool	Exp#3	8	1.1	1.1	0.00	IPI:IPI00021842.1	APOE Apolipoprotein E	0
Healthy pool	Exp#3	10	3.1	3.1	4.73	IPI:IPI00021842.1	APOE Apolipoprotein E	1
Late cancer pool	Exp#2	7	3	3	1	IPI:IPI00879055.1	ARVCF ARVCF protein	1
Early cancer pool	Exp#2	18	0	2	1	IPI:IPI00879055.1	ARVCF ARVCF protein	1
Benign or healthy	Exp#2			Not detected			N/A	
Late cancer pool	Exp#2	13	0	2	1	IPI:IPI00032328.2	KNG1 Isoform HMW of Kininogen-1	1
Early cancer pool	Exp#2	8	0	7	3	IPI:IPI00032328.2	KNG1 Isoform HMW of Kininogen-1	3
Benign pool	Exp#2	12	0	2	0	IPI:IPI00032328.2	KNG1 Isoform HMW of Kininogen-1	0
Healthy pool	Exp#2	8	0	3	1	IPI:IPI00032328.2	KNG1 Isoform HMW of Kininogen-1	1
Late cancer pool	Exp#2	13	0	2	2	IPI:IPI00215894.1	KNG1 Isoform LMW of Kininogen-1	1
Early cancer pool	Exp#2	8	7	7	4	IPI:IPI00215894.1	KNG1 Isoform LMW of Kininogen-1	3
Benign pool	Exp#2	12	2	2	0	IPI:IPI00215894.1	KNG1 Isoform LMW of Kininogen-1	0
Healthy pool	Exp#2	13	0	2	2	IPI:IPI00215894.1	KNG1 Isoform LMW of Kininogen-1	1

**Footnotes**

**N:** The rank of the specified protein relative to all other proteins in the list of detected proteins.

**Unused:** (ProtScore) A measure of the protein confidence for a detected protein, calculated from the peptide confidence for peptides from spectra that have not already been completely "used" by higher scoring winning proteins.

**Total:** (ProtScore): A measure of the total amount of evidence for a detected protein. The total ProtScore is calculated using all of the peptides detected for the protein.

**%Cov (95):** The number of matching amino acids (from peptides) divided by the total number of amino acids in the sequence, expressed as a percentage.

**Accession:** The accession number for the detected protein.

**Name:** The name of the detected protein.

Table s4. Mass-spectrometry results for the top four protein hits.

Type	Exp #	N	Unused	Total	%Cov (95)	Accession	Name	Peptides(95%)
Late	Exp#1	1	142	142	20	IP1:IP100022229.1	APOB Apolipoprotein B-100	67
cancer	Exp#2	3	21	21	2	IP1:IP100022229.1	APOB Apolipoprotein B-100	10
pool	Exp#3	1	91.4	91.4	12.01	IP1:IP100022229.1	APOB Apolipoprotein B-100	45
Early	Exp#1	1	126	126	18	IP1:IP100022229.1	APOB Apolipoprotein B-100	62
cancer	Exp#2	2	31	31	3	IP1:IP100022229.1	APOB Apolipoprotein B-100	13
pool	Exp#3	4	4.4	4.4	0.50	IP1:IP100022229.1	APOB Apolipoprotein B-100	2
Benign	Exp#1	3	3	3	1	IP1:IP100022229.1	APOB Apolipoprotein B-100	2
pool	Exp#2	1	43	43	5	IP1:IP100022229.1	APOB Apolipoprotein B-100	19
	Exp#3	1	78.5	78.5	9.34	IP1:IP100022229.1	APOB Apolipoprotein B-100	36
Healthy	Exp#2	5	13	13	1	IP1:IP100022229.1	APOB Apolipoprotein B-100	6
pool	Exp#3	1	83.3	83.3	10.56	IP1:IP100022229.1	APOB Apolipoprotein B-100	38

Table s5. Mass spectrometry identification of apolipoprotein B-100.