ELECTROPHORESIS

Supporting Information for Electrophoresis

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Biomarker discovery in breast cancer serum using 2-D-DIGE/MALDI-TOF/TOF and data validation by routine clinical assays

Supplementary

Table 1

(A)

Patient ID	Age (years)	Menaupausal status	Diagnosis	Transferrin (mg/dl)	Haptoglobin (mg/dl)	Apolipoprotein A1 (g/d)	Total protein concentration (g/dl)
controls >60 years							
243	72.31	post	intraductal papilloma	249.47	169.43	176.71	7.35
295	68.19	post	fibrocystic mastopathy	216.55	148.75	163.93	7.55
261	67.40	post	intraductal papilloma and fibrocystic mastopathy	200.96	106.23	153.15	8.63
226	65.84	post	intraductal papilloma	275.43	185.89	136.25	7.85
336	62.83	post	fibrocystic mastopathy, low grade	222.67	188.78	142.80	9.47
251	62.13	post	Fibrocystic mastopathy	241.36	108.61	164.31	8.23
325	62.12	post	fibroadenoma	225.08	105.57	158.51	7.23
264	61.40	post	fibrocystic mastopathy	225.24	169.44	211.04	7.53
17	60.10	post	healthy	259.43	188.96	168.53	7.48
controls 50-60 years							
344	59.14	post	fibrocystic mastopathy	224.98	186.55	149.99	8.15
210	58.20	post	fibrocystic mastopathy	226.94	92.93	196.13	7.44
347	57.56	post	fibrocystic mastopathy	234.74	122.20	152.98	8.69
4	57.40	post	healthy	242.85	136.47	234.25	7.11
257	56.50	post	intraductal papilloma	258.00	71.95	274.35	7.11
16	56.40	post	healthy	223.41	173.64	215.31	6.60
326	56.05	post		259.70	232.76	161.64	7.09
6	54.30	post	healthy	267.13	103.11	193.47	6.95
11	52.50	post	healthy	288.62	230.70	153.80	7.65
controls 40-50 years							
208	46.11	pre	endometrium polyp	272.40	212.81	201.11	7.18
9	45.80	pre	healthy	317.90	129.24	157.39	7.33
12	45.30	pre	healthy	270.81	148.25	172.96	7.73
272	44.81	pre	tumor free breast	234.31	115.15	145.19	7.63
250	44.66	pre	fibrocystic mastopathy	236.86	117.54	176.31	8.58
266	44.58	pre	fibrocystic mastopathy	253.38	284.32	140.23	7.90
241	44.52	pre	endometrium cyst	304.08	129.23	166.29	8.04
282	42.68	pre	fibrocystic mastopathy left, fibroadenoma right	219.27	171.09	179.94	7.77
294	40.73	pre	nodular adenosis	309.54	151.81	150.83	8.42
2	40.20	pre	healthy	232.28	127.70	161.83	8.96
controls <40 years							

13	39.90	pre	healthy	299.09	177.36	146.81	8.04
3	38.40	pre	healthy	190.75	140.82	191.96	7.65
1	37.30	pre	healthy	237.07	145.89	171.17	7.96
14	35.90	pre	healthy	194.13	116.90	172.68	7.32
15	35.80	pre	healthy	288.85	96.91	173.64	7.30
8	34.50	pre	healthy	299.65	61.32	163.09	7.70
7	29.20	pre	healthy	244.09	156.52	224.58	6.98
Average				249.91	148.71	174.38	

(B)

Patient ID	Age (years)	Menaupausal status	ER-Status	PgR-Status	pT	pN	Tum-or size (cm)	Grad-ing	Diagnosis	Transfe-rrin (mg/dl)	Hapto-globin (mg/dl)	Apo-A1 (mg/dl)	Total protein concent-ration (g/dl)
patients >60 years													
287	77.07	post	1	0	2	1a	2.5	2	ILC (invasive, lobular mamma carcinoma)	259.16	119.47	179.20	7.93
348	70.25	post	3	2	1c	2a		2	ILC (invasive, lobular mamma carcinoma)	345.23	126.65	184.87	7.48
299	69.74	post	3	0	1c	0	1.2	3	IDC (invasive, ductal mamma carcinoma)	281.53	128.73	163.27	7.30
224	69.48	post			is	0	0.2	1	DCIS	291.80	150.83	199.13	7.75
335	68.40	post	3	1	2	0	3	3	IDC (invasive, ductal mamma carcinoma)	262.63	220.07	227.33	7.36
283	67.91	post	3	3	1b	0	1	3	IDC (invasive, ductal mamma carcinoma)	286.14	71.44	204.11	8.01
339	67.60	post	3	3				1	DCIS	205.91	159.32	187.27	8.20
308	65.89	post	3	2				3	IDC (invasive, ductal mamma carcinoma)	299.98	129.21	228.08	6.80
297	60.89	post	3	2	1b	1mi	0.8	1	IDC (invasive, ductal mamma carcinoma)	246.12	183.57	184.59	7.45
209	60.23	post	0	0	2	1a	4.5	3	IDC (invasive, ductal mamma carcinoma)	254.67	107.44	189.01	7.68
patients 50-60 years													
270	58.65	post	2	2	1c	0	1.7	2	ILC (invasive, lobular mamma carcinoma)	290.49	242.07	207.83	6.47
237	56.61	post	3	0	2	0		2	DCIS	242.32	114.28	186.24	7.22
316	56.56	post			1b	0	0.4	1	invasive adenocarcinoma of the endometrium	272.78	169.21	159.98	7.45
267	56.39	post	0	0	1mic	0	5.5	3	DCIS, microinvasive	206.62	223.91	192.20	7.95
286	55.07	post	3	2	1c	1a	1.2	2	ILC (invasive, lobular mamma carcinoma)	256.55	145.66	179.49	8.13
223	54.98	post	2	0	2	0	3	1	IDC (invasive, ductal mamma	286.50	185.79	200.55	8.80

									carcinoma)				
222	53.79	post	2	3	1a	0	0.5	1	Invasive, lobular adeno carcinoma	339.56	96.55	244.48	6.75
258	53.40	post	3	0	1c	0	1.2	1	IDC (invasive, ductal mamma carcinoma)	328.32	178.23	186.57	7.33
205	52.34	post	0	0	is	0	2	2	DCIS	200.94	116.05	183.75	8.41
236	51.82	post	2	2	1b	0	3	3	DCIS, extensive	255.97	185.63	175.86	7.82
298	50.26	post	0	0	1c	0	2	3	IDC (invasive, ductal mamma carcinoma)	208.36	212.51	162.75	7.37
patients 40-50 years													
345	49.10	pre	0	2				1-2	DCIS	294.70	92.04	166.53	7.57
232	47.98	pre	3	2	2	3a	3.8	3	IDC (invasive, ductal mamma carcinoma)	232.29	75.86	132.48	6.94
309	47.56	pre	0	0	4d	1a		3	IDC (invasive, ductal mamma carcinoma)	277.12	162.86	106.58	7.75
235	47.02	pre	2	2	is	0		1	DCIS	276.67	169.78	201.22	7.29
206	46.63	pre	2	2			1.3		DCIS	297.18	65.33	156.41	6.35
239	45.71	pre	1	1	1a	1mi	4	3	DCIS	259.80	177.05	185.71	7.94
321	45.54	pre	1	1	1c	0	3	2	IDC (invasive, ductal mamma carcinoma)	299.38	105.48	150.22	7.12
303	45.10	pre	3	3	2	0	3.5	2	ILC (invasive, lobular mamma carcinoma)	254.03	94.90	180.22	7.97
306	44.66	pre	2	1	1c	0	1.4	1	DCIS	248.65	211.55	154.40	7.62
302	41.26	pre	0	0	1mic	0	0.5	3	DCIS	295.92	95.66	191.54	7.10
262	40.30	pre	2	0	is	0	5	3	DCIS	237.14	70.09	207.49	7.99
patients <40 years													
322	36.45	pre	0	0	2	0		3	ductal mamma carcinoma	295.14	311.92	213.21	7.74
273	36.44	pre			is		1.2	2	DCIS	212.42	52.42	183.25	8.38
193	34.14	pre	0	0	1b	1a	0.7	3	IDC (invasive, ductal mamma carcinoma)	249.57		207.19	6.49
313	33.68	pre	0	2	2is	1mi	3	3	DCIS, moderately sized	376.81	93.11	273.01	7.36
200	32.12	pre	2	2	1c	1a	2.4	3	IDC (invasive, ductal mamma carcinoma)	291.57	153.17	156.86	8.28
230	31.98	pre	0	0	2	0	2.2	3	IDC (invasive, ductal mamma carcinoma)	238.51	91.98	152.04	7.28
259	31.7	pre	1	0	1b	0	2	3	IDC (invasive, ductal mamma carcinoma)	252.16	63.98	202.29	8.12
Average										269.50	140.89	185.83	

Table 1. Individual immunochemical quantification by standard clinical diagnostics of 3 candidate proteins transferrin, haptoglobin and apolipoprotein AI concentration in 35 control (A) and 39 breast cancer patients (B).