

Table S1.

Phase 1 Exploratory Study, List of proteins identified by LC-ESI-MS/MS after 1DE separation and their relative quantitation by spectral count

Protein Name	UniProt Entry Name	SwissProt- UniProt No.	CRC case Pool			Control Pool			FC ^b	VIP value ^d
			Spectral Counts			Spectral Counts				
			Mean ± SD ^a			Mean ± SD ^a				
Actin, cytoplasmic 1	ACTB_HUMAN	P60709	5	±	2	6	±	7	-1.27	0.1668
Afamin	AFAM_HUMAN	P43652	23	±	1	30	±	7	-1.30	0.7291
Alpha-1-acid glycoprotein	A1AG1_HUMAN	P02763	6	±	1	3	±	0.4	1.85	0.5556
Alpha-1-acid glycoprotein 2	A1AG2_HUMAN	P19652	3	±	2	3	±	1	-1.00	0.0011
Alpha-1-antichymotrypsin	AACT_HUMAN	P01011	100	±	8	43	±	8	2.32	2.5592
Alpha-1B-glycoprotein	A1BG_HUMAN	P04217	20	±	5	20	±	7	-1.04	0.0912
Alpha-2-antiplasmin	A2AP_HUMAN	P08697	14	±	3	12	±	2	1.19	0.3603
Alpha-2-HS-glycoprotein	FETUA_HUMAN	P02765	19	±	6	27	±	7	-1.43	0.7309
Alpha-2-macroglobulin	A2MG_HUMAN	P01023	527	±	46	689	±	73	-1.31	4.0391
Angiotensinogen	ANGT_HUMAN	P01019	13	±	1	14	±	6	-1.02	0.0353
Antithrombin-III	ANT3_HUMAN	P01008	57	±	10	62	±	14	-1.07	0.3285
Apolipoprotein A-I	APOA1_HUMAN	P02647	195	±	32	226	±	26	-1.16	1.4098
Apolipoprotein A-II	APOA2_HUMAN	P02652	15	±	1	18	±	6	-1.19	0.3571
Apolipoprotein A-IV	APOA4_HUMAN	P06727	37	±	7	47	±	7	-1.27	0.8728
Apolipoprotein B-100	APOB_HUMAN	P04114	467	±	84	475	±	78	-1.02	0.2437
Apolipoprotein D	APOD_HUMAN	P05090	26	±	9	25	±	6	1.03	0.0643
Apolipoprotein E	APOE_HUMAN	P02649	39	±	5	34	±	7	1.13	0.4459
Apolipoprotein L1	APOL1_HUMAN	O14791	10	±	1	10	±	2	-1.05	0.1040
Apolipoprotein M	APOM_HUMAN	O95445	8	±	2	6	±	2	1.36	0.3465
Beta-2-glycoprotein 1	APOH_HUMAN	P02749	30	±	7	26	±	4	1.15	0.4219
C-reactive protein	CRP_HUMAN	P02741	12	±	1	1	±	1	16.97	1.1243
C4b-binding protein alpha chain	C4BPA_HUMAN	P04003	53	±	6	35	±	3	1.51	1.3888
Carbonic anhydrase 1	CAH1_HUMAN	P00915	3	±	1	8	±	1	-2.48	0.7014
Carboxypeptidase N catalytic chain	CBPN_HUMAN	P15169	6	±	1	6	±	4	1.10	0.0930
Carboxypeptidase N subunit 2	CPN2_HUMAN	P22792	4	±	2	5	±	1	-1.05	0.0412
CD5 antigen-like	CD5L_HUMAN	O43866	3	±	1	5	±	2	-1.72	0.4023
Ceruloplasmin	CERU_HUMAN	P00450	123	±	21	106	±	20	1.16	0.9296
Clusterin	CLUS_HUMAN	P10909	31	±	3	33	±	4	-1.07	0.2766

continued Table S1.

page 2/4

Protein Name	UniProt Entry Name	SwissProt- UniProt No.	CRC case Pool			Control Pool			FC ^b	VIP value ^d
			Spectral Counts			Spectral Counts				
			Mean ± SD ^a			Mean ± SD ^a				
Coagulation factor X	FA10_HUMAN	P00742	3	±	2	4	±	4	-1.12	0.0643
Coagulation factor XII	FA12_HUMAN	P00748	4	±	1	3	±	1	1.11	0.1111
Complement C1q subcomponent subunit B	C1QB_HUMAN	P02746	10	±	4	9	±	2	1.07	0.1069
Complement C1q subcomponent subunit C	C1QC_HUMAN	P02747	14	±	4	9	±	1	1.57	0.6476
Complement C1r subcomponent	C1R_HUMAN	P00736	10	±	4	8	±	1	1.24	0.3002
Complement C1s subcomponent	C1S_HUMAN	P09871	15	±	1	19	±	3	-1.27	0.5884
Complement C2	CO2_HUMAN	P06681	14	±	5	12	±	4	1.17	0.2675
Complement C3	CO3_HUMAN	P01024	837	±	34	773	±	106	1.08	1.8297
Complement C4-B	CO4B_HUMAN	P0C0L5	218	±	8	185	±	35	1.18	1.5759
Complement C5	CO5_HUMAN	P01031	64	±	2	41	±	6	1.55	1.6023
Complement component C6	CO6_HUMAN	P13671	18	±	3	13	±	1	1.38	0.7032
Complement component C7	CO7_HUMAN	P10643	11	±	2	12	±	5	-1.18	0.2555
Complement component C8 alpha chain	CO8A_HUMAN	P07357	5	±	1	4	±	1	1.21	0.2479
Complement component C8 beta chain	CO8B_HUMAN	P07358	6	±	1	4	±	3	1.29	0.2081
Complement component C8 gamma chain	CO8G_HUMAN	P07360	14	±	2	10	±	3	1.38	0.5522
Complement component C9	CO9_HUMAN	P02748	18	±	5	11	±	5	1.60	0.7036
Complement factor B	CFAB_HUMAN	P00751	80	±	12	55	±	6	1.44	1.5539
Complement factor H	CFAH_HUMAN	P08603	79	±	18	81	±	3	-1.02	0.1057
Complement factor H-related protein 1	FHR1_HUMAN	Q03591	13	±	2	11	±	4	1.11	0.1976
Complement factor I	CFAI_HUMAN	P05156	15	±	1	10	±	1	1.40	0.6639
Corticosteroid-binding globulin	CBG_HUMAN	P08185	6	±	1	6	±	1	1.09	0.1445
Fibrinogen alpha chain	FIBA_HUMAN	P02671	556	±	23	403	±	66	1.38	3.9906
Fibrinogen beta chain	FIBB_HUMAN	P02675	277	±	20	161	±	30	1.72	3.5866
Fibrinogen gamma chain	FIBG_HUMAN	P02679	213	±	29	152	±	25	1.40	2.4133
Fibronectin	FINC_HUMAN	P02751	118	±	8	110	±	13	1.07	0.5892
Fibulin-1	FBLN1_HUMAN	P23142	2	±	1	4	±	0.4	-2.33	0.4732
Ficolin-3	FCN3_HUMAN	O75636	6	±	1	4	±	1	1.60	0.4612
Galectin-3-binding protein	LG3BP_HUMAN	Q08380	3	±	2	9	±	1	-3.18	0.8048
Gelsolin	GELS_HUMAN	P06396	23	±	6	39	±	6	-1.67	1.2344

continued Table S1.										page 3/4	
Protein Name	UniProt Entry Name	SwissProt- UniProt No.	CRC case Pool			Control Pool			FC ^b	VIP value ^d	
			Spectral Counts			Spectral Counts					
			Mean ± SD ^a			Mean ± SD ^a					
Glutathione peroxidase 3	GPX3_HUMAN	P22352	4	±	0.2	3	±	0.3	1.37	0.3465	
Hemopexin	HEMO_HUMAN	P02790	60	±	15	65	±	15	-1.09	0.3678	
Heparin cofactor 2	HEP2_HUMAN	P05546	18	±	3	15	±	4	1.17	0.3433	
Histidine-rich glycoprotein	HRG_HUMAN	P04196	18	±	1	19	±	1	-1.06	0.2602	
Ig kappa chain C region	IGKC_HUMAN	P01834	10	±	1	8	±	3	1.21	0.2959	
Ig lambda-2 chain C regions	LAC2_HUMAN	P0CG05	13	±	2	12	±	3	1.05	0.0953	
Ig mu chain C region	IGHM_HUMAN	P01871	20	±	0	22	±	1	-1.10	0.4196	
Insulin-like growth factor-binding protein complex acid labile subunit	ALS_HUMAN	P35858	6	±	3	7	±	2	-1.07	0.0715	
Inter-alpha-trypsin inhibitor heavy chain H1	ITIH1_HUMAN	P19827	67	±	6	55	±	7	1.21	0.9998	
Inter-alpha-trypsin inhibitor heavy chain H2	ITIH2_HUMAN	P19823	145	±	9	124	±	28	1.17	1.1418	
Inter-alpha-trypsin inhibitor heavy chain H3	ITIH3_HUMAN	Q06033	11	±	0	4	±	1	2.61	0.8991	
Inter-alpha-trypsin inhibitor heavy chain H4	ITIH4_HUMAN	Q14624	62	±	5	63	±	6	-1.02	0.1463	
Kallistatin	KAIN_HUMAN	P29622	1	±	1	7	±	3	-5.44	0.7907	
Kininogen-1	KNG1_HUMAN	P01042	31	±	1	34	±	9	-1.09	0.3042	
Leucine-rich alpha-2-glycoprotein	A2GL_HUMAN	P02750	15	±	6	7	±	3	1.99	0.7601	
Mannose-binding protein C	MBL2_HUMAN	P11226	4	±	1	2	±	1	1.81	0.3600	
N-acetylmuramoyl-L-alanine amidase	PGRP2_HUMAN	Q96PD5	4	±	0.5	5	±	3	-1.28	0.1984	
Peroxiredoxin-2	PRDX2_HUMAN	P32119	3	±	1	5	±	1	-1.83	0.4945	
Pigment epithelium-derived factor	PEDF_HUMAN	P36955	14	±	4	16	±	5	-1.18	0.3007	
Plasma kallikrein	KLKB1_HUMAN	P03952	18	±	2	22	±	5	-1.20	0.4766	
Plasma protease C1 inhibitor	IC1_HUMAN	P05155	36	±	8	36	±	4	1.02	0.0688	
Plasminogen	PLMN_HUMAN	P00747	39	±	6	34	±	5	1.14	0.5118	
Protein AMBP	AMBP_HUMAN	P02760	25	±	3	22	±	3	1.13	0.4061	
Prothrombin	THRB_HUMAN	P00734	35	±	9	31	±	9	1.12	0.3236	
Retinol-binding protein 4	RET4_HUMAN	P02753	26	±	6	27	±	5	-1.04	0.1281	
Serum amyloid A protein	SAA_HUMAN	PODJ18	8	±	0.3	nd ^c			nd ^c	0.9784	
Serum amyloid A-4 protein	SAA4_HUMAN	P35542	18	±	1	14	±	2	1.30	0.6385	
Serum amyloid P-component	SAMP_HUMAN	P02743	17	±	1	15	±	6	1.16	0.2992	

continued Table S1. page4/4 page 4/4

Protein Name	UniProt Entry Name	SwissProt- UniProt No.	CRC case Pool			Control Pool			FC ^b	VIP value ^d
			Spectral Counts			Spectral Counts				
			Mean	±	SD ^a	Mean	±	SD ^a		
Serum paraoxonase/arylesterase 1	PON1_HUMAN	P27169	18	±	4	22	±	3	-1.22	0.5052
Sex hormone-binding globulin	SHBG_HUMAN	P04278	2	±	1	3	±	2	-1.69	0.2730
Tetranectin	TETN_HUMAN	P05452	5	±	3	6	±	2	-1.11	0.0960
Thyroxine-binding globulin	THBG_HUMAN	P05543	6	±	2	7	±	1	-1.00	0.0026
Transthyretin	TTHY_HUMAN	P02766	50	±	7	57	±	8	-1.13	0.6127
Vitamin D-binding protein	VTDB_HUMAN	P02774	51	±	4	57	±	9	-1.12	0.6018
Vitamin K-dependent protein S	PROS_HUMAN	P07225	6	±	1	4	±	1	1.76	0.5437
Vitronectin	VTNC_HUMAN	P04004	20	±	4	17	±	1	1.17	0.4184
Zinc-alpha-2-glycoprotein	ZA2G_HUMAN	P25311	9	±	2	10	±	1	-1.08	0.1432

^a Mean ± SD of three technical replicates

^b FC, Fold Change, Spectral counts of CRC cases/controls; **bold**, FC≥1.5; **bold-italic**, FC≤-1.5

^c nd, not detectable

^d VIP, Variable Importance in the Projection (PLS-DA analysis); **bold**, VIP>1

continued Table S2.										page 5/5
Protein Name	UniProt Entry Name	SwissProt- UniProt No.	EPIC-CRC case Pool			EPIC-Control Pool			FC ^b	VIP value ^c
			Spectral Counts Mean ± SD ^a			Spectral Counts Mean ± SD ^a				
Vitamin K-dependent protein S	PROS_HUMAN	P07225	13	±	2	10	±	2	1.31	0.6861
Vitronectin	VTNC_HUMAN	P04004	43	±	7	42	±	7	1.03	0.1847
Zinc-alpha-2-glycoprotein	ZA2G_HUMAN	P25311	25	±	5	28	±	2	-1.12	0.5624
^a Mean ± SD of three technical replicates ^b FC, Fold Change, Spectral counts of CRC cases/controls; bold , FC≥1.5; bold-italic , FC<-1.5 ^c VIP, Variable Importance in the Projection (PLS-DA analysis); bold , VIP>1										

Table S3.

Relative amounts of proteins analysed by targeted proteomics (LC-SRM-MS) in the EPIC population not including Phase 2 samples (the number of subjects is given in parenthesis)

Candidate Biomarker	Relative amount ^a Mean ± SD		P-value ^b	Relative amount ^a Mean + SD		P-value ^b	Relative amount ^a Mean + SD		P-value ^b
	Controls	CRC Cases		Female Controls	Female CRC Cases		Male Controls	Male CRC Cases	
	(38)	(38)		(22)	(22)		(16)	(16)	
APOC2	8.13 ± 3.16	10.1 ± 7.27	0.26	8.14 ± 2.68	7.55 ± 3.47	0.50	8.07 ± 3.47	12.48 ± 10.3	0.1
CLU	7.07 ± 1.85	7.57 ± 1.87	0.22	7.57 ± 1.59	7.28 ± 2.33	0.97	6.29 ± 1.91	7.81 ± 1.83	0.019
CO4-B	10.85 ± 6.08	11.89 ± 6.18	0.38	10.1 ± 4.47	10.52 ± 6.81	1	10.83 ± 8.07	11.56 ± 5.0	0.38
CO9	0.80 ± 0.34	0.91 ± 0.36	0.22	0.85 ± 0.3	0.87 ± 0.38	0.87	0.74 ± 0.38	0.86 ± 0.33	0.4
FETUA	2.6 ± 1.03	2.8 ± 0.89	0.26	2.72 ± 0.97	2.74 ± 1.04	0.76	2.79 ± 1.12	2.78 ± 0.9	0.89
MASP2	7.38 ± 2.35	7.69 ± 2.57	0.7	7.16 ± 1.93	6.99 ± 2.27	0.84	7.36 ± 2.59	7.91 ± 2.86	0.51
MBL2	1.13 ± 0.58	1.19 ± 0.52	0.56	1.2 ± 0.62	1.19 ± 0.57	0.97	1.07 ± 0.57	1.22 ± 0.54	0.53
PGRP2	0.54 ± 0.27	0.54 ± 0.16	0.38	0.59 ± 0.31	0.48 ± 0.18	0.22	0.48 ± 0.16	0.56 ± 0.14	0.088

^a Analyte peak area/internal standard peak area^b Mann-Whitney U, two tailed

Table S4.

ROC analysis: AUC of various combinations of protein biomarkers in males ^a

Biomarker combination	AUC	95% CI	P-value	Sensitivity %	1-Specificity %
CLU + APOC2 + CO4-B	0.618	0.517 - 0.718	0.026	90	68
CLU + APOC2 + MASP2	0.622	0.521 - 0.723	0.021	88	68

^a Only the combinations with P-value <0.05 are shown