

Supplemental Material

Supplemental Table 1. Characteristics of the patients in the BIOSTAT-HF validation cohort by categories of age

Characteristics	Overall	<65yr	65-75yr	>75yr
N	823	199	246	378
Age, yr	72.3 (10.8)	57.3 (7.3)	70.4 (2.8)	81.3 (4.4)
Male	600 (72.9%)	144 (72.4%)	188 (76.4%)	268 (70.9%)
BMI, kg/m ²	28.4 (6)	30.5 (7)	29.2 (5.8)	26.8 (5.1)
Heart rate, bpm	76.4 (21.6)	81.7 (25.8)	76.5 (20.1)	73.5 (19.4)
SBP, mmHg	123 (21.5)	114.9 (18.8)	124.4 (21.2)	126.4 (22)
Peripheral edema	415 (50.4%)	94 (47.2%)	113 (45.9%)	208 (55%)
Ischemic HF	548 (66.6%)	108 (54.3%)	176 (71.5%)	264 (69.8%)
PCI/CABG	266 (32.3%)	60 (30.2%)	89 (36.2%)	117 (31%)
Atrial fibrillation	357 (43.8%)	86 (43.9%)	108 (44.3%)	163 (43.4%)
Diabetes	249 (30.3%)	54 (27.1%)	92 (37.4%)	103 (27.2%)
COPD	129 (15.7%)	28 (14.1%)	44 (17.9%)	57 (15.1%)
Anemia	523 (63.5%)	155 (77.9%)	158 (64.2%)	210 (55.6%)
Urea, mmol/L	10.6 (7.5)	8.4 (9.9)	10.2 (6.6)	11.9 (6.3)
eGFR, ml/min/1.73m ²	51.8 (12.3)	57.3 (6.8)	51.9 (12.6)	48.9 (13.3)
Albumin, g/L	38.2 (6.3)	39.4 (6.8)	38.9 (6.3)	37.1 (5.7)
NYHA II/IV	437 (53.1%)	84 (42.2%)	118 (48%)	235 (62.2%)
Prior HFH (last 12mo)	216 (26.2%)	58 (29.1%)	73 (29.7%)	85 (22.5%)
Stroke	139 (17.1%)	22 (11.2%)	34 (14%)	83 (22.2%)
Peripheral arterial disease	171 (21.3%)	36 (18.5%)	55 (23.2%)	80 (21.5%)

Supplemental Table 2. BIostat-CHF: Full list of biomarkers associated with age in multinomial logistic regression fully adjusted models (see the methods section for details) (age <65yr is the referent category)

	Age 65-75					Age>75				
Biomarker	Coef.	LCI	UCI	P		Coef.	LCI	UCI	P	FDRq
DCN	1.03	0.63	1.43	0.00000		2.08	1.62	2.55	0.00000	0.00000
IL17D	0.99	0.63	1.35	0.00000		1.67	1.26	2.09	0.00000	0.00000
RET	-0.49	-0.69	-0.29	0.00000		-0.87	-1.1	-0.63	0.00000	0.00000
MMP12	0.38	0.23	0.53	0.00000		0.6	0.43	0.77	0.00000	0.00000
VEGFR2	-0.94	-1.34	-0.54	0.00000		-1.58	-2.03	-1.12	0.00000	0.00000
CHI3L1	0.18	0.06	0.29	0.0025		0.46	0.33	0.59	0.00000	0.00000
IGFBP2	0.21	0.05	0.36	0.008		0.62	0.43	0.81	0.00000	0.00000
ERBB3	-0.78	-1.17	-0.39	0.0001		-1.45	-1.89	-1	0.00000	0.00000
OPG	0.2	0.01	0.39	0.0405		0.7	0.48	0.91	0.00000	0.00000
TIMP4	0.19	0.03	0.35	0.0234		0.57	0.38	0.76	0.00000	0.00000
RSPO3	0.13	-0.02	0.27	0.0907		0.47	0.31	0.63	0.00000	0.00000
CLEC4G	-0.58	-0.85	-0.31	0.00000		-0.91	-1.22	-0.59	0.00000	0.00000
ERBB2	-0.6	-0.92	-0.28	0.0002		-1.04	-1.4	-0.67	0.00000	0.00000
CEACAM1	-1.02	-1.62	-0.42	0.0009		-1.86	-2.54	-1.19	0.00000	0.00000
VEGFR3	-0.72	-1.15	-0.29	0.001		-1.32	-1.8	-0.84	0.00000	0.00000
LPL	0.32	0.08	0.55	0.0077		0.82	0.52	1.12	0.00000	0.00000
LOGTROP10	0.13	-0.02	0.28	0.0784		0.42	0.26	0.58	0.00000	0.00001
CHIT1	0.13	0.04	0.21	0.0027		0.26	0.16	0.37	0.00000	0.00001
MB	0.09	-0.05	0.23	0.2041		0.38	0.23	0.54	0.00000	0.00002
PARP1	-0.25	-0.37	-0.12	0.0001		-0.38	-0.54	-0.23	0.00000	0.00002
NOTCH3	0.09	-0.09	0.26	0.3305		0.49	0.29	0.69	0.00000	0.00002
SPARC	-0.49	-0.92	-0.05	0.0273		-1.2	-1.69	-0.7	0.00000	0.00003
TCL1A	-0.25	-0.35	-0.16	0.00000		-0.27	-0.38	-0.16	0.00000	0.00005
HBEGFR	-0.2	-0.39	-0.02	0.0331		-0.56	-0.8	-0.32	0.00001	0.00009
CTSV	-0.32	-0.56	-0.08	0.0085		-0.65	-0.93	-0.36	0.00001	0.00011
PSIP1	-0.17	-0.28	-0.05	0.0058		-0.33	-0.48	-0.19	0.00001	0.00014
SYND1	-0.17	-0.35	0	0.0552		-0.48	-0.69	-0.26	0.00001	0.00014
TNFSF13	0.26	-0.01	0.53	0.0601		0.73	0.4	1.06	0.00001	0.00017
HAOX1	-0.14	-0.22	-0.06	0.0004		-0.2	-0.29	-0.11	0.00002	0.00019
TIE2	-0.62	-0.97	-0.26	0.0007		-0.9	-1.3	-0.49	0.00002	0.00019
TREM1	0.25	0	0.5	0.0462		0.64	0.35	0.94	0.00002	0.00022
SIT1	-0.44	-0.65	-0.22	0.0001		-0.56	-0.82	-0.3	0.00002	0.00023
PAI	-0.14	-0.25	-0.04	0.0079		-0.26	-0.38	-0.14	0.00002	0.00027
KRT19	0.35	0.17	0.54	0.0002		0.44	0.23	0.65	0.00003	0.00037
HK8	-0.39	-0.67	-0.11	0.007		-0.67	-0.99	-0.35	0.00004	0.00047
EGF	-0.08	-0.16	-0.01	0.0252		-0.18	-0.27	-0.09	0.00006	0.00059
IL27	0.37	0.1	0.64	0.0067		0.64	0.33	0.95	0.00006	0.00061
FCRL6	0.28	0.1	0.46	0.0021		0.42	0.21	0.62	0.00007	0.00070
PDGFSUBUNITA	-0.12	-0.22	-0.01	0.0283		-0.25	-0.37	-0.13	0.00007	0.00070
PDGFSUBUNITB	-0.11	-0.2	-0.02	0.0184		-0.21	-0.31	-0.11	0.00008	0.00072
PPY	0.16	0.06	0.27	0.0023		0.24	0.12	0.37	0.00011	0.00099
SCF	0.32	0.12	0.51	0.0014		0.45	0.22	0.68	0.00014	0.00120

DCBLD2	0.44	0.11	0.77	0.0093		0.76	0.37	1.15	0.00014	0.00123
METAP2	-0.16	-0.31	-0.01	0.0372		-0.34	-0.52	-0.16	0.00015	0.00123
FADD	-0.12	-0.23	-0.02	0.0228		-0.25	-0.38	-0.12	0.00017	0.00138
ITGB5	0.5	0.19	0.81	0.0017		0.69	0.33	1.06	0.00017	0.00138
EGLN1	-0.31	-0.53	-0.1	0.0043		-0.5	-0.76	-0.24	0.00018	0.00141
ADAMTS15	-0.31	-0.5	-0.13	0.001		-0.41	-0.62	-0.19	0.00018	0.00141
STK4	-0.1	-0.19	-0.01	0.0272		-0.19	-0.29	-0.09	0.00020	0.00151
TF	0.39	0.08	0.7	0.0136		0.68	0.32	1.04	0.00024	0.00177
AMBP	0.53	0.11	0.95	0.0141		0.94	0.43	1.44	0.00026	0.00184
WIF1	-0.23	-0.46	0	0.0474		-0.5	-0.76	-0.23	0.00026	0.00184
FURIN	-0.33	-0.59	-0.07	0.0116		-0.54	-0.83	-0.25	0.00031	0.00211
LYN	-0.13	-0.25	-0.01	0.0289		-0.25	-0.39	-0.11	0.00032	0.00214
DFFA	-0.14	-0.26	-0.02	0.0243		-0.27	-0.42	-0.12	0.00033	0.00218
CXADR	-0.28	-0.48	-0.09	0.0048		-0.41	-0.64	-0.19	0.00039	0.00247
CASP3	-0.08	-0.15	-0.01	0.0253		-0.15	-0.24	-0.07	0.00039	0.00247
CDKN1A	-0.09	-0.17	0	0.0462		-0.19	-0.29	-0.08	0.00044	0.00277
LOGNTPROBNP0	0.12	0.01	0.23	0.0311		0.23	0.1	0.36	0.00046	0.00280
CXCL13	0.17	0	0.34	0.047		0.34	0.15	0.53	0.00049	0.00295
MGMT	-0.08	-0.17	0	0.0596		-0.18	-0.28	-0.08	0.00062	0.00369
GDF15	0.08	-0.07	0.22	0.2842		0.28	0.12	0.44	0.00071	0.00409
CLEC4C	-0.26	-0.47	-0.05	0.0136		-0.41	-0.64	-0.17	0.00071	0.00409
CD40L	-0.08	-0.18	0.01	0.075		-0.19	-0.3	-0.08	0.00075	0.00417
NF2	-0.09	-0.17	0	0.0421		-0.17	-0.27	-0.07	0.00075	0.00417
GLO1	-0.17	-0.33	-0.01	0.0393		-0.32	-0.5	-0.13	0.00091	0.00493
FXYD5	-0.21	-0.45	0.02	0.0756		-0.51	-0.8	-0.21	0.00091	0.00493
CCL17	-0.04	-0.15	0.06	0.391		-0.2	-0.32	-0.08	0.00106	0.00564
IDUA	-0.35	-0.59	-0.11	0.0039		-0.46	-0.74	-0.18	0.00109	0.00569
CXCL1	-0.1	-0.2	0	0.0454		-0.19	-0.3	-0.08	0.00115	0.00592
TRAIL	-0.3	-0.59	-0.01	0.0419		-0.54	-0.87	-0.22	0.00116	0.00592
ANGPT1	-0.09	-0.19	0.01	0.0889		-0.2	-0.32	-0.08	0.00120	0.00605
CA5A	-0.18	-0.3	-0.07	0.0016		-0.22	-0.35	-0.09	0.00128	0.00636
WFDC2	0.32	0	0.64	0.0504		0.62	0.23	1	0.00166	0.00813
SPON1	-0.02	-0.23	0.2	0.87		0.36	0.13	0.59	0.00175	0.00843
TGFR2	0.32	0.04	0.6	0.0247		0.52	0.19	0.85	0.00182	0.00861
LOX1	-0.17	-0.32	-0.01	0.032		-0.29	-0.48	-0.11	0.00183	0.00861
PRELP	0.56	0.16	0.96	0.0065		0.72	0.26	1.18	0.00213	0.00990
ABL1	-0.12	-0.24	0	0.0436		-0.23	-0.38	-0.08	0.00235	0.01078
ITGB1BP2	-0.06	-0.13	0.02	0.1476		-0.14	-0.23	-0.05	0.00248	0.01122
KLRD1	0.22	0.02	0.42	0.0274		0.34	0.12	0.57	0.00261	0.01170
TPA	0.03	-0.05	0.12	0.4535		0.15	0.05	0.25	0.00269	0.01188
PRDX3	-0.16	-0.3	-0.02	0.0283		-0.26	-0.43	-0.09	0.00288	0.01241
FGF2	-0.08	-0.21	0.05	0.2076		-0.24	-0.39	-0.08	0.00289	0.01241
IL1RA	-0.14	-0.3	0.01	0.0678		-0.28	-0.46	-0.09	0.00291	0.01241
ICA1	-0.17	-0.34	0	0.0566		-0.33	-0.55	-0.11	0.00298	0.01256
LAG3	0.22	-0.02	0.47	0.07		0.42	0.14	0.69	0.00310	0.01292
LYPD3	-0.51	-0.81	-0.21	0.0008		-0.51	-0.84	-0.17	0.00320	0.01321
IGGFCRECEPTORIIB	0.11	-0.01	0.23	0.0626		0.21	0.07	0.35	0.00332	0.01354
PI3	0.04	-0.13	0.22	0.6301		0.28	0.09	0.47	0.00359	0.01447

CTRC	0.01	-0.12	0.15	0.8399		-0.23	-0.38	-0.07	0.00366	0.01461
GLB1	-0.24	-0.43	-0.05	0.0132		-0.34	-0.57	-0.11	0.00372	0.01470
PAPPA	0.12	-0.05	0.29	0.1768		0.29	0.09	0.48	0.00378	0.01475
CLEC4A	-0.3	-0.58	-0.02	0.0336		-0.47	-0.79	-0.15	0.00402	0.01553
PSPD	0	-0.17	0.16	0.9607		0.26	0.08	0.44	0.00441	0.01685
SELE	-0.25	-0.41	-0.09	0.0024		-0.27	-0.45	-0.08	0.00447	0.01692
LILRB4	0.12	-0.09	0.33	0.2721		0.34	0.1	0.58	0.00517	0.01936
PRDX5	-0.11	-0.22	0	0.0521		-0.18	-0.31	-0.05	0.00523	0.01940
JAMA	-0.14	-0.23	-0.04	0.0061		-0.16	-0.28	-0.05	0.00536	0.01969
VEGFA	-0.13	-0.37	0.1	0.2693		-0.4	-0.68	-0.12	0.00568	0.02063
FABP2	-0.01	-0.14	0.13	0.9253		-0.22	-0.38	-0.07	0.00577	0.02076
CNTNAP2	0.06	-0.21	0.32	0.6675		0.42	0.12	0.72	0.00588	0.02094
DPP10	-0.16	-0.35	0.04	0.1201		-0.33	-0.57	-0.1	0.00610	0.02151
DLK1	0.05	-0.1	0.2	0.503		0.25	0.07	0.42	0.00624	0.02182
SRPK2	-0.09	-0.18	0	0.051		-0.15	-0.26	-0.04	0.00636	0.02201
DECR1	-0.07	-0.16	0.01	0.1037		-0.14	-0.24	-0.04	0.00651	0.02234
TXLNA	-0.09	-0.19	0.01	0.0856		-0.16	-0.28	-0.04	0.00673	0.02286
HEXIM1	-0.09	-0.19	0.02	0.113		-0.17	-0.3	-0.05	0.00697	0.02346
SCGB3A2	0.01	-0.12	0.14	0.8899		0.2	0.05	0.34	0.00713	0.02375
STC1	0.18	-0.07	0.43	0.1517		0.41	0.11	0.7	0.00718	0.02375
IRAK4	-0.06	-0.14	0.02	0.1249		-0.13	-0.22	-0.03	0.00725	0.02375
MMP9	-0.13	-0.26	-0.01	0.0329		-0.19	-0.34	-0.05	0.00742	0.02409
SOD2	-0.34	-1.37	0.69	0.5188		-1.48	-2.57	-0.39	0.00773	0.02490
FGF23	-0.08	-0.16	0	0.059		-0.13	-0.22	-0.03	0.00823	0.02625
CEACAM8	-0.2	-0.35	-0.04	0.0123		-0.24	-0.42	-0.06	0.00876	0.02771
SRC	-0.08	-0.17	0.02	0.1283		-0.15	-0.26	-0.04	0.00934	0.02926
HCLS1	-0.08	-0.17	0.02	0.1005		-0.15	-0.26	-0.04	0.00941	0.02926
MMP2	0.01	-0.15	0.17	0.9439		0.24	0.06	0.42	0.00961	0.02965
FGF21	-0.11	-0.19	-0.03	0.0065		-0.12	-0.21	-0.03	0.01025	0.03135
PADI2	-0.24	-0.45	-0.04	0.0212		-0.33	-0.58	-0.08	0.01048	0.03179
BACH1	-0.2	-0.4	-0.01	0.0432		-0.3	-0.53	-0.07	0.01097	0.03301
GPC1	-0.19	-0.47	0.09	0.1851		-0.41	-0.73	-0.09	0.01201	0.03583
PSGL1	-0.41	-0.85	0.03	0.0663		-0.65	-1.16	-0.13	0.01328	0.03929
SPRY2	-0.06	-0.14	0.03	0.1951		-0.13	-0.24	-0.03	0.01400	0.04110
MERTK	0.14	-0.09	0.36	0.2298		0.33	0.06	0.59	0.01439	0.04191
NFATC3	-0.12	-0.27	0.03	0.1246		-0.24	-0.43	-0.05	0.01454	0.04202
ADAM8	-0.21	-0.45	0.03	0.0805		-0.33	-0.6	-0.07	0.01468	0.04208
AGRP	-0.13	-0.34	0.09	0.2475		-0.31	-0.55	-0.06	0.01508	0.04290
LDLRECEPTOR	-0.22	-0.37	-0.06	0.0051		-0.21	-0.39	-0.04	0.01535	0.04326
NT5	-0.14	-0.3	0.01	0.0726		-0.22	-0.4	-0.04	0.01544	0.04326
ESM1	0.17	-0.02	0.35	0.0785		0.26	0.05	0.48	0.01600	0.04449
KLK13	-0.55	-0.83	-0.27	0.0001		-0.39	-0.71	-0.07	0.01613	0.04452
IFNLR1	-0.19	-0.48	0.1	0.2071		-0.41	-0.75	-0.08	0.01640	0.04493
MMP3	0.01	-0.13	0.15	0.8962		0.19	0.03	0.34	0.01764	0.04796
IL5	-0.03	-0.14	0.08	0.5658		-0.17	-0.31	-0.03	0.01853	0.04999
THPO	-0.09	-0.34	0.16	0.4768		-0.35	-0.65	-0.06	0.01949	0.05221
THBS2	-0.17	-0.62	0.27	0.4495		0.63	0.1	1.15	0.02008	0.05341
VEGFD	-0.18	-0.42	0.07	0.1576		-0.33	-0.61	-0.05	0.02070	0.05466

IRF9	-0.16	-0.33	0.01	0.0705		-0.23	-0.44	-0.03	0.02204	0.05778
IL18BP	-0.02	-0.2	0.16	0.7971		0.23	0.03	0.44	0.02315	0.06027
SELP	-0.11	-0.22	0	0.0445		-0.15	-0.27	-0.02	0.02335	0.06034
SHPS1	-0.01	-0.2	0.18	0.9132		0.24	0.03	0.45	0.02352	0.06037
TNFR2	-0.03	-0.2	0.14	0.7445		0.22	0.03	0.41	0.02414	0.06145
TRIM5	-0.16	-0.34	0.02	0.0732		-0.24	-0.46	-0.03	0.02428	0.06145
MSLN	0.09	-0.08	0.26	0.3165		0.23	0.03	0.42	0.02481	0.06237
PRDX1	-0.07	-0.19	0.05	0.2684		-0.17	-0.32	-0.02	0.02513	0.06257
TNFRSF10C	-0.07	-0.24	0.09	0.3857		0.22	0.03	0.41	0.02525	0.06257
MASP1	-0.33	-0.69	0.04	0.0783		-0.48	-0.9	-0.06	0.02540	0.06257
MICAB	-0.08	-0.16	0	0.0616		-0.11	-0.2	-0.01	0.02577	0.06296
ITM2A	0.3	0.1	0.51	0.0033		0.26	0.03	0.5	0.02591	0.06296
PGF	0.22	-0.03	0.47	0.0876		0.32	0.04	0.61	0.02623	0.06333
AREG	0.12	-0.08	0.33	0.2333		0.26	0.03	0.5	0.02655	0.06370
EIF4G1	-0.06	-0.15	0.03	0.1745		-0.11	-0.22	-0.01	0.02677	0.06380
FCRL3	0.23	-0.08	0.55	0.1484		0.4	0.04	0.75	0.02719	0.06439
EGFR	-0.31	-0.55	-0.07	0.0126		-0.32	-0.6	-0.03	0.02827	0.06651
CD207	-0.26	-0.54	0.03	0.0793		-0.36	-0.69	-0.04	0.02873	0.06715
IL18	-0.16	-0.35	0.04	0.1094		-0.25	-0.47	-0.02	0.02937	0.06793
CNTN1	0.01	-0.17	0.2	0.9064		0.23	0.02	0.44	0.02947	0.06793
APN	-0.25	-0.43	-0.08	0.005		-0.22	-0.43	-0.02	0.02961	0.06793
PTH1R	-0.09	-0.28	0.11	0.3984		-0.27	-0.52	-0.03	0.03036	0.06920
S100A4	-0.17	-0.38	0.05	0.1307		-0.28	-0.53	-0.03	0.03073	0.06961
OPN	-0.02	-0.16	0.12	0.7938		0.18	0.02	0.34	0.03146	0.07041
BOC	-0.2	-0.51	0.11	0.2063		-0.39	-0.74	-0.03	0.03146	0.07041
CD4	-0.25	-0.56	0.06	0.1156		-0.4	-0.76	-0.03	0.03270	0.07230
DAPP1	-0.04	-0.1	0.02	0.1622		-0.07	-0.14	-0.01	0.03270	0.07230
PRSS8	0.2	-0.1	0.5	0.197		0.4	0.03	0.76	0.03309	0.07272
ERBB4	-0.11	-0.44	0.22	0.5107		-0.41	-0.79	-0.03	0.03547	0.07748
ITGA6	-0.02	-0.14	0.09	0.6998		-0.15	-0.29	-0.01	0.03693	0.08019
PIK3AP1	-0.08	-0.21	0.05	0.2194		-0.16	-0.31	-0.01	0.03786	0.08173
GALNT3	-0.08	-0.32	0.16	0.4928		-0.29	-0.57	-0.02	0.03873	0.08313
HK14	-0.04	-0.24	0.15	0.6599		-0.23	-0.46	-0.01	0.04198	0.08957
DDX58	-0.14	-0.28	-0.01	0.0417		-0.17	-0.33	-0.01	0.04299	0.09120
NEMO	-0.06	-0.17	0.06	0.3503		-0.14	-0.28	0	0.04368	0.09214
SCAMP3	-0.06	-0.15	0.03	0.1972		-0.11	-0.22	0	0.04496	0.09429
ANXA1	-0.21	-0.38	-0.05	0.012		-0.2	-0.4	0	0.04746	0.09896
IL12RB1	0.17	-0.13	0.46	0.2737		0.33	0	0.66	0.04773	0.09897
IRAK1	-0.09	-0.24	0.06	0.2412		-0.19	-0.37	0	0.05015	0.10340
EPCAM	-0.13	-0.25	0	0.0467		-0.14	-0.29	0	0.05101	0.10457
SLAMF7	-0.11	-0.28	0.05	0.1761		-0.19	-0.38	0	0.05129	0.10457
ITGB2	-0.03	-0.2	0.14	0.7574		0.19	0	0.38	0.05262	0.10646
SH2D1A	-0.25	-0.42	-0.08	0.0038		-0.19	-0.38	0	0.05279	0.10646
SORT1	-0.17	-0.5	0.16	0.3086		-0.37	-0.74	0	0.05313	0.10655
CPB1	-0.06	-0.19	0.06	0.3123		-0.14	-0.29	0	0.05479	0.10929
IGFBP1	0.05	-0.05	0.15	0.3259		0.11	0	0.23	0.05544	0.10997
IL1RT2	-0.25	-0.44	-0.07	0.0077		-0.2	-0.42	0.01	0.06042	0.11922
MMP7	-0.13	-0.29	0.02	0.0987		-0.17	-0.35	0.01	0.06186	0.12140

SH2B3	-0.06	-0.14	0.03	0.1685		-0.09	-0.19	0	0.06222	0.12145
ST2	-0.01	-0.15	0.12	0.8536		0.14	-0.01	0.29	0.06614	0.12792
ITGAV	0.38	-0.03	0.78	0.0666		0.43	-0.03	0.89	0.06623	0.12792
FAS	-0.1	-0.28	0.08	0.2785		0.19	-0.01	0.39	0.06777	0.13022
XPNPEP2	-0.21	-0.35	-0.07	0.0038		-0.16	-0.33	0.01	0.06956	0.13230
TNFRSF4	-0.19	-0.41	0.03	0.0934		-0.23	-0.48	0.02	0.06957	0.13230
PLC	-0.09	-0.28	0.1	0.3666		0.2	-0.02	0.42	0.07004	0.13250
TNFRSF19	0.09	-0.12	0.3	0.4131		0.22	-0.02	0.46	0.07209	0.13512
MILR1	0.18	-0.03	0.39	0.0977		0.22	-0.02	0.47	0.07216	0.13512
GAL3	-0.03	-0.21	0.15	0.7372		0.18	-0.02	0.38	0.07795	0.14521
CXCL12	-0.12	-0.64	0.4	0.6432		-0.54	-1.14	0.06	0.07996	0.14809
CPA1	-0.06	-0.18	0.06	0.3136		-0.12	-0.26	0.01	0.08030	0.14809
HO1	0.13	-0.11	0.37	0.3007		0.25	-0.03	0.53	0.08225	0.15094
UPAR	-0.12	-0.31	0.07	0.2168		0.19	-0.03	0.4	0.08434	0.15399
CYR61	0.11	-0.07	0.28	0.2351		0.18	-0.03	0.38	0.08685	0.15779
TNFR1	0.02	-0.15	0.19	0.8282		0.15	-0.02	0.33	0.08849	0.15998
CD83	-0.24	-0.49	0.02	0.0706		-0.25	-0.54	0.04	0.09043	0.16211
TNFSF13B	-0.25	-0.41	-0.08	0.0031		-0.16	-0.34	0.02	0.09055	0.16211
ITGA11	0.02	-0.23	0.28	0.8467		-0.26	-0.57	0.04	0.09112	0.16234
EIF5A	-0.01	-0.37	0.34	0.9411		0.34	-0.06	0.73	0.09212	0.16266
EPHA2	0.13	-0.17	0.43	0.3997		0.3	-0.05	0.64	0.09219	0.16266
AZU1	-0.14	-0.27	-0.02	0.0266		-0.12	-0.27	0.02	0.09413	0.16530
CTSZ	-0.09	-0.27	0.1	0.3742		0.18	-0.03	0.4	0.09506	0.16612
EDAR	-0.05	-0.22	0.12	0.5638		-0.18	-0.39	0.03	0.10201	0.17742
PPP1R9B	-0.04	-0.13	0.04	0.3183		-0.08	-0.18	0.02	0.10444	0.18079
CXL17	0.18	-0.01	0.37	0.0596		0.18	-0.04	0.4	0.11086	0.19029
BIRC2	-0.21	-0.47	0.05	0.1134		-0.26	-0.57	0.06	0.11117	0.19029
CCL22	-0.18	-0.32	-0.05	0.0073		-0.12	-0.27	0.03	0.11165	0.19029
CD28	-0.07	-0.32	0.18	0.5915		0.22	-0.05	0.49	0.11223	0.19029
PTX3	-0.08	-0.28	0.12	0.4167		-0.19	-0.42	0.04	0.11300	0.19029
TFF3	-0.07	-0.24	0.09	0.3865		0.15	-0.04	0.33	0.11303	0.19029
FRALPHA	0.14	-0.09	0.37	0.2332		0.21	-0.05	0.47	0.11413	0.19125
DCTN1	-0.06	-0.16	0.05	0.2699		-0.1	-0.22	0.03	0.12116	0.20212
TRIM21	-0.07	-0.21	0.06	0.3054		-0.13	-0.29	0.03	0.12502	0.20761
PODXL	-0.27	-0.74	0.19	0.2448		-0.41	-0.93	0.12	0.12895	0.21317
TFPI2	-0.14	-0.3	0.01	0.0746		-0.14	-0.32	0.04	0.13443	0.22072
CD70	0.12	-0.1	0.34	0.2848		0.19	-0.06	0.44	0.13472	0.22072
TNFRSF14	-0.08	-0.25	0.09	0.379		0.15	-0.05	0.34	0.13882	0.22642
CD27	0.13	-0.13	0.38	0.34		0.22	-0.07	0.52	0.14162	0.22997
GDF2	0.07	-0.1	0.25	0.3961		-0.15	-0.35	0.05	0.14302	0.23035
BLMHYDROLASE	-0.17	-0.35	0.02	0.0775		-0.16	-0.37	0.05	0.14311	0.23035
PLXNA4	-0.06	-0.15	0.04	0.2436		-0.08	-0.2	0.03	0.14512	0.23257
CCL16	-0.18	-0.33	-0.03	0.0193		-0.13	-0.3	0.05	0.14869	0.23657
CLEC4D	-0.11	-0.28	0.06	0.2202		-0.14	-0.34	0.05	0.14890	0.23657
MK	-0.11	-0.23	0	0.0506		-0.1	-0.23	0.04	0.15765	0.24939
CSTB	-0.09	-0.25	0.07	0.2868		0.12	-0.05	0.3	0.16504	0.25996
AREG1	0.05	-0.18	0.28	0.6695		0.18	-0.08	0.44	0.16850	0.26427
S100A11	-0.24	-0.55	0.08	0.1389		-0.25	-0.61	0.11	0.17503	0.27334

TRAF2	-0.11	-0.29	0.07	0.2189		-0.14	-0.35	0.07	0.17912	0.27854
HSD11B1	0.23	-0.03	0.5	0.0833		0.21	-0.1	0.52	0.18111	0.27912
EPHB4	-0.09	-0.34	0.16	0.4813		0.18	-0.08	0.44	0.18123	0.27912
TRAILR2	0.18	-0.05	0.4	0.1288		0.17	-0.08	0.42	0.18276	0.27912
TRAP	-0.05	-0.23	0.13	0.5618		0.14	-0.07	0.34	0.18313	0.27912
HSP27	-0.08	-0.33	0.17	0.5371		-0.2	-0.49	0.09	0.18329	0.27912
JUN	0.1	-0.14	0.35	0.42		0.19	-0.09	0.46	0.18659	0.28297
ZBTB16	-0.07	-0.18	0.05	0.2704		-0.09	-0.23	0.05	0.18847	0.28464
LY75	-0.02	-0.28	0.23	0.8539		-0.19	-0.49	0.1	0.19144	0.28795
PCSK9	-0.16	-0.38	0.05	0.1385		-0.16	-0.41	0.08	0.19778	0.29626
XCL1	0	-0.2	0.19	0.977		-0.15	-0.37	0.08	0.20337	0.30340
CCL11	0.12	-0.11	0.35	0.3157		0.17	-0.1	0.44	0.21072	0.31309
CRNN	-0.16	-0.3	-0.01	0.0325		-0.1	-0.27	0.06	0.21434	0.31719
TANK	-0.02	-0.17	0.14	0.839		-0.11	-0.29	0.07	0.21671	0.31940
GRN	-0.25	-0.45	-0.05	0.0141		-0.14	-0.37	0.09	0.21802	0.32005
MCP1	-0.04	-0.22	0.15	0.6849		0.13	-0.08	0.33	0.22122	0.32346
GIF	-0.04	-0.15	0.07	0.4594		-0.07	-0.2	0.05	0.24040	0.35011
ADAMTS13	-0.24	-0.75	0.28	0.363		-0.34	-0.92	0.23	0.24321	0.35280
IL1RT1	-0.11	-0.29	0.07	0.2229		0.12	-0.08	0.33	0.25078	0.36234
BNP	0.07	-0.01	0.15	0.092		0.05	-0.04	0.15	0.25659	0.36825
LTBR	-0.13	-0.32	0.07	0.2045		0.13	-0.09	0.34	0.25687	0.36825
TNFRSF11A	0.07	-0.13	0.28	0.4793		0.13	-0.1	0.37	0.25875	0.36950
IL16	-0.13	-0.33	0.07	0.1961		-0.13	-0.36	0.1	0.26081	0.37100
DGKZ	-0.07	-0.5	0.36	0.7542		-0.28	-0.79	0.23	0.27739	0.39306
FGFBP1	0	-0.11	0.1	0.9334		0.06	-0.06	0.18	0.29274	0.41321
TGFALPHA	-0.04	-0.29	0.22	0.7647		-0.16	-0.45	0.14	0.29744	0.41680
CD160	-0.09	-0.31	0.12	0.3814		-0.13	-0.37	0.11	0.29755	0.41680
LY9	-0.12	-0.4	0.16	0.4042		-0.16	-0.48	0.16	0.32651	0.45562
RARRES2	-0.24	-0.45	-0.03	0.028		-0.12	-0.37	0.13	0.33051	0.45946
GZMH	-0.02	-0.13	0.1	0.7795		0.06	-0.07	0.19	0.34150	0.47294
CD84	-0.01	-0.25	0.22	0.9092		-0.13	-0.41	0.14	0.35173	0.48529
MUC16	-0.03	-0.11	0.05	0.4813		-0.04	-0.14	0.05	0.36849	0.50650
PAR1	0.04	-0.21	0.28	0.7542		0.13	-0.16	0.43	0.37029	0.50707
DLL1	-0.07	-0.39	0.25	0.6677		-0.17	-0.53	0.2	0.37370	0.50985
MARCO	-0.06	-0.54	0.42	0.804		-0.24	-0.8	0.31	0.39060	0.52776
GT	0.05	-0.13	0.24	0.5643		0.09	-0.12	0.3	0.39102	0.52776
PRTN3	-0.22	-0.38	-0.06	0.0061		-0.07	-0.25	0.1	0.39225	0.52776
MEPE	-0.24	-0.43	-0.06	0.0108		-0.09	-0.3	0.12	0.39259	0.52776
PECAM1	-0.13	-0.25	0	0.0416		-0.06	-0.2	0.08	0.39499	0.52905
RETN	-0.1	-0.26	0.06	0.2154		0.08	-0.11	0.27	0.39824	0.53147
ARNT	0.12	0.02	0.23	0.0236		0.05	-0.08	0.19	0.41420	0.55076
CD163	-0.1	-0.25	0.06	0.2329		0.07	-0.1	0.25	0.41664	0.55200
PON3	-0.02	-0.15	0.1	0.7513		0.06	-0.09	0.21	0.42158	0.55484
GAL9	0.12	-0.25	0.48	0.5342		0.18	-0.25	0.61	0.42180	0.55484
GAL4	0.07	-0.1	0.23	0.4381		0.07	-0.11	0.26	0.44129	0.57840
ALCAM	-0.15	-0.35	0.05	0.148		0.08	-0.14	0.31	0.46029	0.60062
GAL1	-0.07	-0.51	0.38	0.7755		0.2	-0.34	0.74	0.46151	0.60062
HOSCAR	0	-0.34	0.34	0.9877		0.16	-0.27	0.6	0.46402	0.60175

IFNGAMMAR1	0	-0.35	0.35	0.996		0.15	-0.25	0.55	0.46973	0.60701
KIM1	0.02	-0.11	0.15	0.7641		-0.06	-0.21	0.1	0.48653	0.62651
CDH5	-0.11	-0.29	0.07	0.2166		0.07	-0.13	0.27	0.49637	0.63629
NCR1	0.01	-0.21	0.23	0.932		0.09	-0.17	0.34	0.49759	0.63629
CTSD	-0.18	-0.37	0.01	0.061		0.07	-0.14	0.28	0.49987	0.63681
CDSN	0.07	-0.16	0.3	0.5385		0.09	-0.17	0.35	0.50147	0.63681
IGF1R	-0.01	-0.32	0.3	0.9499		-0.12	-0.49	0.24	0.50614	0.64053
PGLYRP1	-0.09	-0.25	0.07	0.2594		0.06	-0.12	0.24	0.50918	0.64216
VIM	-0.07	-0.25	0.1	0.4178		-0.07	-0.27	0.14	0.53760	0.67568
PVRL4	0.06	-0.18	0.3	0.5986		0.09	-0.19	0.36	0.54122	0.67791
ICAM2	-0.09	-0.26	0.08	0.3135		0.06	-0.14	0.25	0.57825	0.71860
FABP4	-0.06	-0.18	0.07	0.3704		0.04	-0.1	0.18	0.57833	0.71860
GZMB	-0.09	-0.25	0.07	0.2654		-0.05	-0.24	0.13	0.58132	0.71860
CLEC7A	-0.05	-0.22	0.13	0.587		0.06	-0.14	0.26	0.58158	0.71860
IL1RL2	0.2	-0.06	0.46	0.1242		0.08	-0.21	0.37	0.58349	0.71860
IL6RA	-0.14	-0.33	0.05	0.1385		0.06	-0.16	0.28	0.59126	0.72573
VWF	-0.01	-0.1	0.08	0.8003		0.03	-0.08	0.13	0.59901	0.73279
SEZ6L	0.14	-0.24	0.52	0.4726		0.12	-0.32	0.55	0.60272	0.73487
TNFRSF10A	-0.07	-0.34	0.19	0.5865		-0.08	-0.38	0.23	0.61354	0.74560
ICOSLG	0.03	-0.3	0.36	0.8417		-0.1	-0.48	0.29	0.62456	0.75647
FS	0.13	-0.08	0.34	0.2367		0.06	-0.18	0.3	0.63642	0.76831
REN	0.05	-0.08	0.18	0.4325		0.04	-0.12	0.19	0.64508	0.77622
MIA	-0.11	-0.49	0.27	0.5696		-0.1	-0.54	0.34	0.64905	0.77689
CTSL1	0.07	-0.2	0.33	0.6235		-0.07	-0.38	0.24	0.64988	0.77689
AXL	-0.13	-0.3	0.05	0.1649		0.05	-0.15	0.25	0.65199	0.77689
IL10	0.04	-0.11	0.2	0.5667		0.04	-0.14	0.22	0.65470	0.77759
RAGE	0.06	-0.17	0.3	0.61		-0.06	-0.33	0.21	0.66569	0.78809
HK11	-0.06	-0.31	0.19	0.6414		0.06	-0.23	0.35	0.66822	0.78854
CPE	0.06	-0.2	0.32	0.6495		-0.06	-0.36	0.23	0.67580	0.79185
TLR3	-0.07	-0.25	0.1	0.3977		0.04	-0.16	0.24	0.67672	0.79185
TR	-0.08	-0.24	0.07	0.3058		-0.04	-0.22	0.14	0.67749	0.79185
ADM	-0.01	-0.15	0.14	0.9181		-0.04	-0.2	0.13	0.68066	0.79302
PDL2	-0.05	-0.34	0.23	0.7098		-0.07	-0.39	0.26	0.68292	0.79314
TPSAB1	-0.01	-0.21	0.2	0.9413		-0.05	-0.28	0.19	0.69051	0.79943
TGM2	-0.01	-0.18	0.17	0.9537		-0.04	-0.24	0.16	0.70543	0.81303
FRGAMMA	-0.02	-0.09	0.05	0.5157		0.02	-0.06	0.09	0.70669	0.81303
IL6	-0.01	-0.12	0.1	0.8275		-0.02	-0.15	0.1	0.72429	0.82798
NTF4	-0.06	-0.31	0.19	0.6229		-0.05	-0.34	0.24	0.72559	0.82798
CCL15	-0.03	-0.2	0.13	0.6907		0.03	-0.16	0.23	0.72690	0.82798
ACE2	-0.05	-0.24	0.13	0.5531		0.04	-0.17	0.25	0.72871	0.82798
CXCL16	-0.19	-0.38	0	0.0519		0.04	-0.18	0.25	0.74377	0.84248
KPNA1	0.05	-0.08	0.18	0.4559		0.03	-0.13	0.18	0.74907	0.84377
GPNMB	0.2	-0.3	0.69	0.4364		0.09	-0.48	0.66	0.74950	0.84377
TNFRSF6B	-0.1	-0.26	0.06	0.2339		-0.03	-0.22	0.16	0.75247	0.84451
LEP	0.06	-0.06	0.19	0.3148		0.02	-0.12	0.16	0.75731	0.84629
UPA	-0.19	-0.37	0	0.047		0.03	-0.17	0.24	0.75867	0.84629
CLEC6A	-0.24	-0.47	-0.01	0.0421		-0.04	-0.3	0.22	0.77140	0.85789
CAIX	0.08	-0.07	0.22	0.3116		0.02	-0.15	0.19	0.78014	0.86499

SPON2	0.03	-0.58	0.64	0.922		-0.1	-0.82	0.62	0.78852	0.87165
IL2RA	-0.1	-0.26	0.07	0.2553		0.02	-0.16	0.21	0.79420	0.87337
FCRLB	0.02	-0.13	0.18	0.7606		-0.02	-0.21	0.16	0.79483	0.87337
MADHOMOLOG5	-0.16	-0.79	0.47	0.6169		-0.09	-0.8	0.63	0.81442	0.88516
TLT2	-0.15	-0.32	0.02	0.0806		0.02	-0.17	0.21	0.81748	0.88516
BTN3A2	0.02	-0.23	0.27	0.8773		0.03	-0.25	0.31	0.82143	0.88516
HNMT	-0.08	-0.24	0.09	0.3807		-0.02	-0.21	0.17	0.82446	0.88516
ITGB6	-0.03	-0.32	0.26	0.8613		0.04	-0.3	0.37	0.82467	0.88516
PRSS27	-0.08	-0.31	0.14	0.4715		-0.03	-0.3	0.24	0.82530	0.88516
MPO	-0.18	-0.36	-0.01	0.0434		-0.02	-0.22	0.18	0.82583	0.88516
CKAP4	-0.01	-0.23	0.21	0.9431		-0.03	-0.28	0.22	0.82872	0.88516
PIGR	-0.2	-1.11	0.72	0.6777		-0.12	-1.19	0.95	0.82946	0.88516
CCL24	0.03	-0.09	0.14	0.654		-0.01	-0.15	0.12	0.82969	0.88516
WISP1	0.03	-0.2	0.26	0.8003		-0.03	-0.29	0.23	0.83353	0.88668
FASLG	-0.07	-0.3	0.15	0.5142		0.02	-0.23	0.28	0.85206	0.90378
HGF	-0.08	-0.22	0.05	0.2295		0.01	-0.14	0.16	0.86302	0.91276
IL4RA	-0.1	-0.35	0.15	0.4352		-0.02	-0.31	0.26	0.87352	0.91956
PRKCQ	0.01	-0.21	0.22	0.9603		-0.02	-0.27	0.23	0.87546	0.91956
IGFBP7	-0.15	-0.29	0	0.0491		0.01	-0.15	0.17	0.87696	0.91956
GH	0.06	-0.02	0.14	0.1235		-0.01	-0.1	0.08	0.88172	0.92191
DKK1	0.03	-0.12	0.18	0.7005		0.01	-0.17	0.19	0.88859	0.92646
TM	0.03	-0.23	0.3	0.8013		0.02	-0.29	0.33	0.89689	0.93246
TNFRSF13B	-0.04	-0.27	0.19	0.718		0.02	-0.24	0.27	0.90185	0.93497
SERPINA12	-0.07	-0.18	0.04	0.2186		-0.01	-0.14	0.12	0.90669	0.93734
CCL3	0.04	-0.15	0.22	0.6792		0.01	-0.2	0.22	0.91601	0.94431
CD93	-0.21	-0.4	-0.02	0.0336		-0.01	-0.24	0.22	0.92842	0.95443
FAM3B	0.05	-0.17	0.27	0.6654		0.01	-0.25	0.27	0.93267	0.95545
VSIG2	-0.04	-0.24	0.16	0.701		-0.01	-0.24	0.22	0.93465	0.95545
IL17RA	-0.17	-0.34	0.01	0.0618		0.01	-0.19	0.21	0.93723	0.95545
KLK6	-0.13	-0.42	0.16	0.3708		-0.01	-0.32	0.3	0.94514	0.96084
COL1A1	-0.23	-0.42	-0.04	0.0154		-0.01	-0.22	0.21	0.95142	0.96199
TFPI	-0.15	-0.32	0.03	0.0945		-0.01	-0.2	0.19	0.95151	0.96199
LAMP3	-0.03	-0.21	0.15	0.7269		0.01	-0.2	0.22	0.95438	0.96225
BMP6	-0.04	-0.16	0.08	0.5309		0	-0.15	0.14	0.97002	0.97533
CD48	-0.12	-0.48	0.23	0.4981		0.01	-0.41	0.42	0.97610	0.97877
CEACAM5	-0.06	-0.21	0.1	0.458		0	-0.17	0.18	0.99036	0.99036

Supplemental Table 3. BIOSTAT-CHF: Age biomarkers association with the study outcomes in fully adjusted models (see the methods section for details)

(A) Composite of HF hospitalization or death

Biomarker	HR	LCI	UCI	P	FDRq
WFDC2	2.53	2.01	3.18	0.00000	0.00000
WIF1	1.78	1.53	2.06	0.00000	0.00000
LOGNTPROBNPO	1.33	1.23	1.43	0.00000	0.00000
LOGTROPT0	1.31	1.21	1.42	0.00000	0.00000
TNFSF13	1.88	1.55	2.27	0.00000	0.00000
PRELP	2.15	1.66	2.79	0.00000	0.00000
SYND1	1.37	1.23	1.53	0.00000	0.00000
TREM1	1.56	1.33	1.83	0.00000	0.00000
DCN	1.85	1.48	2.31	0.00000	0.00000
RSPO3	1.21	1.12	1.3	0.00000	0.00000
KRT19	1.3	1.17	1.43	0.00000	0.00000
CXADR	1.33	1.19	1.5	0.00000	0.00001
TGFR2	1.57	1.3	1.89	0.00000	0.00001
GDF15	1.22	1.12	1.33	0.00000	0.00001
IGFBP2	1.26	1.14	1.4	0.00001	0.00004
ITGB5	1.55	1.28	1.87	0.00001	0.00004
ADAMTS15	1.32	1.17	1.49	0.00001	0.00005
CXCL13	1.23	1.12	1.34	0.00002	0.00008
TF	1.52	1.25	1.86	0.00004	0.00015
SPON1	1.25	1.12	1.39	0.00004	0.00017
NOTCH3	1.24	1.12	1.38	0.00004	0.00017
CDKN1A	1.11	1.05	1.17	0.00041	0.00147
IL27	1.33	1.13	1.57	0.00073	0.00248
OPG	1.21	1.08	1.36	0.00084	0.00260
ERBB2	1.4	1.15	1.71	0.00087	0.00260
TIMP4	1.18	1.07	1.31	0.00087	0.00260
FCRL6	1.2	1.08	1.35	0.00111	0.00322
VEGFR3	1.56	1.19	2.03	0.00116	0.00325
DFFA	1.12	1.05	1.21	0.00148	0.00397
HK8	1.33	1.11	1.58	0.00153	0.00397
MMP12	1.15	1.05	1.26	0.00188	0.00472
TIE2	1.43	1.14	1.79	0.00220	0.00536
PAI	1.11	1.04	1.18	0.00251	0.00593
METAP2	1.15	1.05	1.27	0.00282	0.00646
CHI3L1	1.11	1.04	1.19	0.00309	0.00689
CEACAM1	1.78	1.21	2.63	0.00356	0.00771
FXYS5	1.24	1.07	1.44	0.00436	0.00920
MB	1.12	1.03	1.22	0.00529	0.01086
SCF	0.86	0.76	0.96	0.00829	0.01659
IDUA	1.22	1.05	1.42	0.01008	0.01911
FADD	1.09	1.02	1.16	0.01015	0.01911
STK4	1.08	1.02	1.14	0.01029	0.01911

PPY	1.09	1.02	1.17	0.01576	0.02859
ERBB3	1.34	1.05	1.71	0.01680	0.02979
GLO1	1.12	1.02	1.24	0.01857	0.03219
EGLN1	1.14	1.02	1.27	0.02005	0.03400
PSIP1	1.08	1.01	1.16	0.02213	0.03561
CD40L	1.07	1.01	1.14	0.02229	0.03561
LYN	1.09	1.01	1.18	0.02265	0.03561
DCBLD2	1.27	1.03	1.57	0.02283	0.03561
MGMT	1.06	1.01	1.13	0.02890	0.04421
CHIT1	1.06	1	1.12	0.03253	0.04879
IL17D	1.17	1.01	1.37	0.03967	0.05839
CCL17	1.07	1	1.14	0.04598	0.06641
PARP1	1.07	1	1.15	0.05448	0.07599
CLEC4G	1.18	1	1.41	0.05456	0.07599
LPL	1.17	0.99	1.38	0.05937	0.08093
CLEC4C	0.89	0.78	1.01	0.06018	0.08093
CASP3	1.04	1	1.09	0.06169	0.08155
NF2	1.05	1	1.11	0.07166	0.09316
CXCL1	1.06	0.99	1.13	0.07421	0.09370
EGF	1.04	1	1.1	0.07448	0.09370
SPARC	1.27	0.97	1.67	0.08099	0.10028
FURIN	1.15	0.98	1.34	0.08416	0.10258
HBEGFR	1.11	0.98	1.25	0.10245	0.12294
LOX1	1.08	0.98	1.19	0.10791	0.12753
CTSV	1.1	0.95	1.28	0.19928	0.23199
TCL1A	0.97	0.91	1.03	0.28460	0.32645
ANGPT1	1.03	0.96	1.1	0.38970	0.44053
HAOX1	1.02	0.97	1.07	0.40785	0.45446
PDGFSUBUNITA	1.03	0.96	1.1	0.45306	0.49773
RET	1.04	0.92	1.17	0.55773	0.60421
CA5A	0.98	0.92	1.06	0.66517	0.69777
PDGFSUBUNITB	1.01	0.96	1.07	0.67055	0.69777
SIT1	0.97	0.85	1.11	0.67655	0.69777
TRAIL	0.96	0.81	1.15	0.67987	0.69777
AMBP	0.98	0.75	1.28	0.89543	0.90706
VEGFR2	0.99	0.78	1.26	0.94449	0.94449

(B) All-cause death

Biomarker	HR	LCI	UCI	P	FDRq
WFDC2	3.34	2.46	4.52	0.00000	0.00000
LOGTROPT0	1.42	1.29	1.56	0.00000	0.00000
LOGNTPROBNP0	1.43	1.29	1.58	0.00000	0.00000
WIF1	1.86	1.54	2.24	0.00000	0.00000
DCN	2.54	1.9	3.38	0.00000	0.00000
TNFSF13	2.28	1.77	2.95	0.00000	0.00000
KRT19	1.49	1.31	1.68	0.00000	0.00000

GDF15	1.39	1.25	1.54	0.00000	0.00000
TREM1	1.87	1.52	2.29	0.00000	0.00000
IGFBP2	1.45	1.27	1.66	0.00000	0.00000
SYND1	1.43	1.24	1.64	0.00000	0.00000
TGFR2	1.78	1.4	2.26	0.00000	0.00002
RSPO3	1.24	1.13	1.36	0.00000	0.00003
PRELP	2.1	1.51	2.93	0.00001	0.00006
CXADR	1.38	1.19	1.59	0.00002	0.00008
CXCL13	1.28	1.14	1.43	0.00004	0.00019
ITGB5	1.66	1.3	2.12	0.00005	0.00022
CDKN1A	1.15	1.07	1.24	0.00016	0.00068
OPG	1.32	1.14	1.52	0.00021	0.00087
SPON1	1.29	1.12	1.47	0.00027	0.00104
SCF	0.76	0.66	0.88	0.00031	0.00116
DFFA	1.18	1.08	1.29	0.00034	0.00121
PAI	1.16	1.07	1.26	0.00038	0.00127
METAP2	1.23	1.09	1.39	0.00064	0.00209
ADAMTS15	1.31	1.11	1.54	0.00103	0.00322
TIMP4	1.23	1.08	1.4	0.00141	0.00423
TF	1.51	1.17	1.95	0.00166	0.00480
CHI3L1	1.15	1.05	1.27	0.00216	0.00600
NOTCH3	1.23	1.07	1.4	0.00247	0.00655
PARP1	1.14	1.05	1.25	0.00252	0.00655
LOX1	1.19	1.06	1.34	0.00400	0.01007
PSIP1	1.13	1.04	1.23	0.00552	0.01346
EGLN1	1.2	1.05	1.37	0.00611	0.01443
FADD	1.12	1.03	1.22	0.00729	0.01671
MGMT	1.1	1.03	1.18	0.00805	0.01795
MB	1.14	1.03	1.27	0.00961	0.02083
CLEC4C	0.81	0.69	0.95	0.01043	0.02198
GLO1	1.18	1.04	1.33	0.01103	0.02264
IL27	1.31	1.06	1.62	0.01195	0.02389
MMP12	1.16	1.03	1.3	0.01428	0.02785
STK4	1.09	1.02	1.17	0.01505	0.02863
CEACAM1	1.87	1.12	3.11	0.01631	0.03029
VEGFR3	1.51	1.08	2.11	0.01678	0.03044
DCBLD2	1.38	1.06	1.81	0.01767	0.03133
LYN	1.12	1.02	1.24	0.02099	0.03638
CHIT1	1.08	1	1.15	0.03926	0.06657
FXYS5	1.22	1	1.48	0.05049	0.08376
HK8	1.25	1	1.56	0.05154	0.08376
IL17D	1.21	1	1.46	0.05406	0.08605
LPL	1.23	0.99	1.53	0.05918	0.09233
FCRL6	1.14	0.99	1.32	0.06899	0.10354
CCL17	1.08	0.99	1.17	0.06904	0.10354
TRAIL	0.82	0.66	1.02	0.07035	0.10354
ERBB2	1.25	0.97	1.6	0.08703	0.12392
NF2	1.06	0.99	1.14	0.08738	0.12392

CXCL1	1.07	0.99	1.16	0.10257	0.14287
HBEGFR	1.15	0.97	1.35	0.10501	0.14291
CASP3	1.05	0.99	1.11	0.10626	0.14291
ERBB3	1.27	0.93	1.74	0.12691	0.16778
TCL1A	0.95	0.87	1.02	0.16806	0.21632
TIE2	1.23	0.92	1.64	0.16918	0.21632
CD40L	1.05	0.97	1.13	0.19221	0.24181
SPARC	1.24	0.87	1.75	0.23607	0.29227
RET	0.91	0.78	1.07	0.24055	0.29317
FURIN	1.12	0.91	1.37	0.27537	0.33044
EGF	1.03	0.97	1.1	0.27987	0.33076
CLEC4G	1.12	0.9	1.4	0.31131	0.35397
PPY	1.05	0.96	1.14	0.31218	0.35397
SIT1	0.91	0.76	1.09	0.31339	0.35397
ANGPT1	1.04	0.96	1.13	0.31766	0.35397
PDGFSUBUNITA	1.04	0.95	1.13	0.41564	0.45662
IDUA	1.08	0.89	1.31	0.43560	0.47190
HAOX1	1.02	0.96	1.09	0.51121	0.54623
CTSV	0.95	0.78	1.16	0.62553	0.65934
CA5A	0.99	0.9	1.08	0.77910	0.81026
AMBP	0.97	0.69	1.36	0.84270	0.86488
VEGFR2	1.02	0.75	1.38	0.88950	0.90105
PDGFSUBUNITB	1	0.93	1.08	0.96318	0.96318

(C) Cardiovascular death

Biomarker	HR	LCI	UCI	P	FDRq
LOGTROPT0	1.47	1.32	1.64	0.00000	0.00000
LOGNTPROBNP0	1.49	1.33	1.68	0.00000	0.00000
WFDC2	2.96	2.05	4.29	0.00000	0.00000
DCN	2.55	1.8	3.6	0.00000	0.00000
TNFSF13	2.29	1.68	3.12	0.00000	0.00000
GDF15	1.39	1.23	1.57	0.00000	0.00000
WIF1	1.78	1.42	2.23	0.00000	0.00001
TREM1	1.79	1.39	2.31	0.00001	0.00006
IGFBP2	1.39	1.18	1.63	0.00006	0.00054
KRT19	1.36	1.16	1.58	0.00011	0.00083
SYND1	1.36	1.15	1.62	0.00037	0.00265
TGFR2	1.68	1.25	2.25	0.00050	0.00305
CXCL13	1.28	1.12	1.48	0.00051	0.00305
PARP1	1.2	1.08	1.32	0.00061	0.00339
RSPO3	1.22	1.09	1.36	0.00072	0.00372
ITGB5	1.65	1.22	2.22	0.00102	0.00499
LOX1	1.25	1.08	1.44	0.00236	0.01085
CDKN1A	1.15	1.05	1.26	0.00257	0.01112
PRELP	1.86	1.24	2.78	0.00279	0.01145
PAI	1.16	1.05	1.28	0.00353	0.01377

DFFA	1.18	1.05	1.32	0.00383	0.01424
IL27	1.45	1.12	1.88	0.00447	0.01574
CXADR	1.29	1.08	1.55	0.00464	0.01574
SPON1	1.26	1.07	1.49	0.00542	0.01763
METAP2	1.23	1.06	1.42	0.00643	0.01969
TF	1.55	1.13	2.12	0.00656	0.01969
PSIP1	1.15	1.03	1.27	0.00965	0.02787
SCF	0.79	0.66	0.95	0.01053	0.02930
EGLN1	1.23	1.05	1.44	0.01090	0.02930
TIMP4	1.22	1.04	1.43	0.01251	0.03252
FADD	1.13	1.02	1.25	0.02015	0.05071
OPG	1.22	1.02	1.46	0.02818	0.06869
MB	1.14	1.01	1.29	0.03324	0.07858
CLEC4C	0.82	0.67	0.99	0.03698	0.08271
HK8	1.34	1.02	1.76	0.03711	0.08271
ADAMTS15	1.22	1.01	1.48	0.04219	0.09141
CXCL1	1.11	1	1.22	0.04409	0.09294
HBEGFR	1.22	1	1.48	0.04666	0.09578
CEACAM1	1.85	0.99	3.45	0.05226	0.10453
NOTCH3	1.17	1	1.38	0.05435	0.10456
MGMT	1.09	1	1.19	0.05496	0.10456
GLO1	1.16	0.99	1.35	0.06274	0.11651
LYN	1.12	0.99	1.26	0.06830	0.12390
CHI3L1	1.11	0.99	1.24	0.07231	0.12819
CHIT1	1.08	0.99	1.17	0.08942	0.15499
FXD5	1.23	0.97	1.56	0.09393	0.15928
VEGFR3	1.4	0.93	2.09	0.10751	0.17841
ANGPT1	1.08	0.98	1.2	0.12137	0.19723
STK4	1.07	0.98	1.16	0.14524	0.23120
SPARC	1.37	0.89	2.11	0.15396	0.23708
NF2	1.06	0.98	1.16	0.15501	0.23708
TRAIL	0.83	0.64	1.09	0.17740	0.26610
TIE2	1.27	0.89	1.81	0.18976	0.27926
IL17D	1.17	0.92	1.49	0.20687	0.29881
MMP12	1.09	0.95	1.26	0.21332	0.30253
ERBB2	1.2	0.88	1.63	0.25079	0.34932
CA5A	0.94	0.84	1.05	0.26826	0.36709
ERBB3	1.23	0.84	1.8	0.28178	0.37895
RET	0.9	0.75	1.1	0.31179	0.40788
CD40L	1.05	0.96	1.15	0.31375	0.40788
CCL17	1.05	0.95	1.16	0.37431	0.47186
EGF	1.03	0.96	1.12	0.37506	0.47186
LPL	1.12	0.86	1.45	0.40432	0.50059
PDGFSUBUNITA	1.04	0.94	1.16	0.42087	0.50545
IDUA	1.1	0.87	1.39	0.42345	0.50545
FCRL6	1.07	0.9	1.28	0.42769	0.50545
FURIN	1.1	0.86	1.4	0.45119	0.51803
CASP3	1.03	0.96	1.1	0.45161	0.51803

DCBLD2	1.11	0.81	1.53	0.52206	0.59015
SIT1	0.94	0.76	1.16	0.55564	0.61291
PPY	1.03	0.93	1.15	0.55791	0.61291
CLEC4G	1.08	0.82	1.41	0.59217	0.64152
HAOX1	0.98	0.91	1.06	0.61954	0.66197
PDGFSUBUNITB	1.02	0.93	1.11	0.66176	0.69753
AMBP	1.07	0.71	1.63	0.73527	0.76468
TCL1A	0.99	0.9	1.09	0.81695	0.83845
VEGFR2	0.96	0.67	1.39	0.84858	0.85960
CTSV	1	0.79	1.27	0.99180	0.99180

Supplemental Table 4. BIostat-HF validation: Full list of biomarkers associated with age in multinomial logistic regression fully adjusted models (see the methods section for details) (age <65yr is the referent category)

	Age 65-75				Age>75				
Biomarker	Coef.	LCI	UCI	P	Coef.	LCI	UCI	P	FDRq
IL_17D	1.48	0.71	2.32	0.00029	2.77	1.91	3.71	0.00000	0.00000
TNFSF13	1.55	0.81	2.32	0.00006	2.32	1.53	3.16	0.00000	0.00000
TGFR_2	0.98	0.38	1.60	0.00152	2.04	1.34	2.78	0.00000	0.00000
MB	0.34	0.01	0.67	0.04250	1.10	0.72	1.51	0.00000	0.00000
TNFRSF19	0.68	0.20	1.16	0.00573	1.51	0.97	2.09	0.00000	0.00001
SCF	1.25	0.80	1.73	0.00000	1.27	0.80	1.77	0.00000	0.00002
DCN	0.82	0.05	1.63	0.03960	2.05	1.29	2.89	0.00000	0.00003
ITGB5	1.29	0.57	2.04	0.00058	1.94	1.19	2.73	0.00000	0.00004
EPHA2	0.72	0.10	1.37	0.02561	1.85	1.11	2.63	0.00000	0.00008
MMP12	0.33	0.04	0.63	0.02747	0.75	0.44	1.07	0.00000	0.00009
SEZ6L	0.91	0.05	1.79	0.03940	2.25	1.32	3.22	0.00000	0.00010
RSPO3	0.23	-0.11	0.57	0.18645	1.00	0.59	1.44	0.00000	0.00010
MIA	1.64	0.82	2.51	0.00013	2.12	1.24	3.05	0.00000	0.00012
AP_N	-0.92	-1.38	-0.48	0.00006	-1.17	-1.69	-0.67	0.00001	0.00015
TF	1.20	0.49	1.96	0.00133	1.75	1.00	2.55	0.00001	0.00021
PPY	0.19	0.00	0.37	0.04754	0.46	0.25	0.67	0.00002	0.00037
CHIT1	0.30	0.14	0.48	0.00051	0.41	0.22	0.60	0.00002	0.00044
AMBP	1.57	0.62	2.58	0.00166	2.31	1.27	3.40	0.00002	0.00044
CD27	0.45	-0.11	1.02	0.11390	1.26	0.68	1.87	0.00003	0.00051
ITGAV	1.14	0.32	1.98	0.00720	1.85	0.99	2.74	0.00003	0.00060
PVRL4	0.65	0.13	1.20	0.01678	1.33	0.71	1.97	0.00004	0.00060
IL16	0.61	0.19	1.06	0.00523	0.96	0.52	1.43	0.00004	0.00062
WFDC2	0.75	0.11	1.40	0.02223	1.58	0.83	2.36	0.00005	0.00076
EDAR	0.86	0.32	1.43	0.00233	1.24	0.66	1.86	0.00005	0.00076
HK11	0.39	-0.12	0.90	0.13116	1.09	0.54	1.65	0.00012	0.00172
GAL_1	2.00	0.85	3.21	0.00087	2.54	1.27	3.87	0.00013	0.00174
EGFR	-1.11	-1.74	-0.51	0.00037	-1.38	-2.10	-0.68	0.00014	0.00174
IL_1RT2	-0.59	-1.05	-0.15	0.00916	-1.01	-1.54	-0.50	0.00014	0.00174
ERBB3	-1.08	-2.13	-0.07	0.03934	-2.01	-3.07	-0.99	0.00014	0.00177
LAG3	0.33	-0.08	0.74	0.11177	0.76	0.38	1.17	0.00015	0.00184
FR_ALPHA	0.81	0.30	1.33	0.00216	1.03	0.50	1.57	0.00016	0.00185
FCRL6	0.50	0.18	0.84	0.00289	0.69	0.33	1.06	0.00018	0.00203
PI3	0.13	-0.19	0.46	0.41851	0.71	0.34	1.09	0.00020	0.00211
SIT1	-0.42	-0.89	0.03	0.07178	-0.86	-1.32	-0.41	0.00020	0.00211
MUC_16	-0.20	-0.39	-0.02	0.03545	-0.37	-0.56	-0.18	0.00021	0.00211
GZMH	0.14	-0.13	0.40	0.31492	0.50	0.24	0.78	0.00024	0.00235
PRELP	0.41	-0.57	1.39	0.41518	1.87	0.88	2.90	0.00029	0.00277
HAOX1	-0.12	-0.26	0.02	0.10145	-0.27	-0.42	-0.13	0.00030	0.00280
PAR_1	0.71	0.16	1.29	0.01277	1.10	0.51	1.73	0.00037	0.00346
TNFRSF13B	0.27	-0.22	0.76	0.28715	0.81	0.37	1.30	0.00055	0.00497
TIMP4	0.15	-0.23	0.53	0.43080	0.73	0.32	1.16	0.00059	0.00519
WISP_1	0.51	-0.01	1.04	0.05622	0.97	0.43	1.54	0.00061	0.00519

KLRD1	0.38	0.03	0.74	0.03468		0.66	0.28	1.05	0.00070	0.00590
TNFSF13B	-0.48	-0.85	-0.11	0.01116		-0.70	-1.13	-0.30	0.00082	0.00675
IGFBP_2	-0.05	-0.42	0.31	0.78836		0.73	0.30	1.16	0.00091	0.00722
S100A4	0.53	0.02	1.05	0.04332		0.91	0.38	1.46	0.00092	0.00722
OPG	-0.21	-0.66	0.22	0.34669		0.84	0.35	1.35	0.00095	0.00733
IGF1R	0.66	-0.06	1.42	0.08087		1.30	0.53	2.10	0.00107	0.00802
NOTCH_3	-0.07	-0.47	0.31	0.71265		0.78	0.32	1.26	0.00109	0.00802
CXCL13	0.23	-0.06	0.52	0.12823		0.49	0.20	0.79	0.00114	0.00819
IFN_GAMMA_R1	0.59	-0.19	1.38	0.13997		1.41	0.58	2.28	0.00115	0.00819
CCL11	-0.04	-0.53	0.46	0.88926		0.86	0.35	1.40	0.00126	0.00875
MARCO	1.39	0.41	2.40	0.00604		1.61	0.64	2.61	0.00135	0.00907
ESM_1	0.33	-0.07	0.74	0.10679		0.71	0.28	1.15	0.00135	0.00907
BTN3A2	0.54	0.02	1.07	0.04332		0.92	0.37	1.49	0.00139	0.00917
CLEC4G	-0.56	-1.18	0.05	0.07389		-1.02	-1.66	-0.40	0.00143	0.00925
TREM1	0.41	-0.09	0.92	0.10714		0.92	0.36	1.49	0.00145	0.00925
ERBB2	-0.73	-1.48	-0.01	0.05062		-1.26	-2.06	-0.50	0.00152	0.00951
CD70	0.39	-0.05	0.84	0.08226		0.71	0.29	1.17	0.00156	0.00952
DLK_1	0.23	-0.09	0.55	0.16635		0.62	0.24	1.01	0.00157	0.00952
DPP10	-0.65	-1.09	-0.23	0.00290		-0.58	-0.96	-0.21	0.00206	0.01228
PGF	0.75	0.18	1.36	0.01193		0.92	0.35	1.54	0.00229	0.01341
IL12RB1	0.46	-0.14	1.05	0.12812		0.92	0.33	1.53	0.00240	0.01383
ICOSLG	1.28	0.46	2.13	0.00259		1.34	0.48	2.23	0.00248	0.01408
LILRB4	0.60	0.19	1.03	0.00487		0.70	0.25	1.15	0.00255	0.01424
TNFRSF14	-0.09	-0.53	0.34	0.67755		0.80	0.27	1.33	0.00298	0.01634
VEGFR_2	-0.92	-1.91	0.05	0.06497		-1.60	-2.68	-0.56	0.00301	0.01634
TNFRSF11A	0.39	-0.05	0.83	0.08392		0.73	0.25	1.22	0.00307	0.01640
LPL	0.40	-0.08	0.91	0.11182		0.76	0.26	1.28	0.00341	0.01795
CEACAM1	-0.41	-1.96	1.13	0.60694		-2.26	-3.81	-0.76	0.00364	0.01891
PAPPA	0.41	0.05	0.79	0.02830		0.58	0.19	0.98	0.00423	0.02168
TLT_2	-0.01	-0.41	0.39	0.97117		0.65	0.20	1.11	0.00502	0.02539
ADAM_TS_15	-0.26	-0.76	0.24	0.31593		-0.74	-1.29	-0.22	0.00602	0.03000
MMP_9	-0.33	-0.60	-0.07	0.01320		-0.40	-0.70	-0.12	0.00622	0.03062
RETN	0.10	-0.31	0.50	0.63495		0.60	0.18	1.05	0.00636	0.03087
LEP	0.36	0.12	0.61	0.00349		0.36	0.10	0.63	0.00654	0.03136
CD160	0.39	-0.03	0.80	0.06736		0.58	0.16	1.02	0.00789	0.03733
5__NT	-0.35	-0.68	-0.02	0.03837		-0.43	-0.77	-0.10	0.01058	0.04940
IL1RL2	0.69	0.16	1.24	0.01206		0.67	0.16	1.19	0.01106	0.05102
DCBLD2	0.66	0.01	1.33	0.04772		0.93	0.21	1.67	0.01197	0.05390
TM	0.73	0.15	1.35	0.01797		0.76	0.19	1.37	0.01198	0.05390
TNFRSF4	0.32	-0.10	0.76	0.14414		0.57	0.13	1.02	0.01221	0.05430
CPE	0.35	-0.27	0.98	0.26658		0.84	0.18	1.51	0.01306	0.05719
CD84	0.74	0.21	1.30	0.00776		0.75	0.17	1.36	0.01317	0.05719
TIE2	-0.16	-0.98	0.65	0.70037		-0.99	-1.80	-0.22	0.01380	0.05921
ANXA1	0.16	-0.25	0.57	0.45458		0.56	0.13	1.02	0.01423	0.06034
VIM	0.06	-0.31	0.42	0.75073		0.47	0.09	0.87	0.01643	0.06891
PRSS27	0.22	-0.20	0.64	0.30682		0.54	0.10	1.01	0.01889	0.07808
ABL1	0.37	-0.07	0.82	0.10457		0.54	0.10	1.01	0.01904	0.07808
GPC1	0.62	0.04	1.21	0.03817		0.74	0.12	1.38	0.02007	0.08137

ITM2A	0.19	-0.18	0.56	0.32126		0.41	0.06	0.76	0.02136	0.08568
ADM	0.50	-0.07	1.10	0.08965		0.62	0.08	1.14	0.02176	0.08611
SH2D1A	0.09	-0.37	0.54	0.68259		0.47	0.07	0.89	0.02205	0.08611
DLL1	0.26	-0.43	0.95	0.45946		0.86	0.13	1.62	0.02217	0.08611
TFF3	-0.25	-0.65	0.11	0.19942		0.51	0.09	0.96	0.02276	0.08720
CD48	0.10	-0.62	0.82	0.77765		0.86	0.12	1.61	0.02294	0.08720
DKK_1	0.31	-0.04	0.67	0.08493		0.41	0.06	0.77	0.02316	0.08720
CLEC7A	0.04	-0.35	0.42	0.84001		0.47	0.06	0.87	0.02402	0.08925
TNFRSF6B	0.13	-0.16	0.43	0.37681		0.40	0.06	0.75	0.02419	0.08925
SELE	-0.25	-0.58	0.07	0.12817		-0.41	-0.79	-0.05	0.02630	0.09567
LDL_RECEPTOR	-0.45	-0.80	-0.12	0.00856		-0.40	-0.77	-0.05	0.02644	0.09567
VSIG2	0.27	-0.07	0.62	0.12346		0.43	0.05	0.81	0.02801	0.10033
FGF_21	-0.13	-0.27	0.01	0.06472		-0.16	-0.31	-0.02	0.02849	0.10108
FGF_BP1	-0.22	-0.50	0.06	0.12311		-0.33	-0.63	-0.04	0.02959	0.10398
CXCL12	-1.31	-2.41	-0.23	0.01781		-1.20	-2.31	-0.10	0.03318	0.11550
CTSD	-0.45	-0.86	-0.06	0.02699		-0.46	-0.89	-0.04	0.03384	0.11669
T_PA	-0.07	-0.28	0.15	0.55718		0.24	0.02	0.46	0.03485	0.11907
GH	0.05	-0.08	0.18	0.47645		0.16	0.01	0.30	0.03772	0.12655
TFPI	-0.89	-1.39	-0.42	0.00027		-0.59	-1.15	-0.04	0.03772	0.12655
CXCL16	-0.80	-1.36	-0.27	0.00398		-0.64	-1.26	-0.04	0.03819	0.12695
PRDX3	-0.07	-0.48	0.34	0.72323		-0.42	-0.81	-0.02	0.03899	0.12793
GAL_9	0.48	-0.19	1.17	0.16254		0.75	0.05	1.49	0.03918	0.12793
CSTB	-0.22	-0.57	0.12	0.20351		0.40	0.02	0.79	0.04078	0.13049
LY75	0.36	-0.21	0.95	0.21928		0.59	0.03	1.17	0.04111	0.13049
PLC	-0.32	-0.81	0.16	0.19673		0.61	0.03	1.21	0.04130	0.13049
CNTNAP2	0.13	-0.41	0.67	0.63799		0.56	0.04	1.12	0.04171	0.13049
CKAP4	0.01	-0.50	0.52	0.97702		0.60	0.04	1.20	0.04173	0.13049
SYND1	-0.59	-1.05	-0.14	0.01137		-0.46	-0.91	-0.02	0.04225	0.13100
GDF_15	-0.13	-0.44	0.17	0.40369		0.39	0.01	0.77	0.04554	0.13999
MERTK	0.55	0.04	1.08	0.03807		0.48	0.01	0.97	0.04591	0.13999
PRSS8	0.76	0.12	1.42	0.02222		0.64	0.01	1.30	0.05024	0.15154
GLB1	-0.49	-1.13	0.15	0.13458		-0.68	-1.36	-0.01	0.05051	0.15154
WIF_1	-0.43	-0.93	0.05	0.08180		-0.50	-1.01	0.00	0.05312	0.15807
CYR61	-0.11	-0.51	0.29	0.59024		0.41	0.00	0.82	0.05487	0.16182
NFATC3	-0.16	-0.44	0.11	0.24286		-0.31	-0.64	0.00	0.05526	0.16182
CTSV	-0.25	-0.71	0.20	0.27381		-0.49	-1.00	0.01	0.05580	0.16214
FAM3B	0.25	-0.16	0.73	0.28924		0.51	0.01	1.05	0.05695	0.16417
DECR1	-0.13	-0.34	0.08	0.23909		-0.21	-0.42	0.01	0.05979	0.17104
NCR1	0.26	-0.19	0.71	0.26205		0.46	-0.02	0.95	0.06139	0.17425
JUN	0.09	-0.24	0.44	0.59772		0.35	0.00	0.73	0.06308	0.17672
GDF_2	0.06	-0.31	0.43	0.73906		0.36	-0.02	0.74	0.06322	0.17672
FURIN	-0.24	-0.82	0.34	0.41609		-0.58	-1.21	0.03	0.06420	0.17677
CHI3L1	-0.08	-0.30	0.13	0.44020		0.21	-0.01	0.44	0.06456	0.17677
ADAM_TS13	-0.76	-1.97	0.43	0.21299		-1.23	-2.56	0.06	0.06467	0.17677
MMP_3	-0.02	-0.33	0.28	0.87622		0.32	-0.02	0.67	0.06701	0.18071
LY9	-0.09	-0.68	0.50	0.76963		0.52	-0.04	1.07	0.06709	0.18071
VEGFA	0.22	-0.40	0.84	0.48611		0.66	-0.04	1.38	0.06878	0.18392
SCGB3A2	0.06	-0.13	0.24	0.55252		0.21	-0.01	0.43	0.07016	0.18625

HOSCAR	0.36	-0.41	1.15	0.35850		0.74	-0.05	1.59	0.07400	0.19504
U_PAR	-0.87	-1.36	-0.40	0.00041		-0.48	-1.02	0.04	0.07454	0.19507
GRN	-0.79	-1.35	-0.26	0.00456		-0.56	-1.20	0.06	0.07778	0.20031
PAI	-0.21	-0.41	-0.01	0.03865		-0.19	-0.41	0.02	0.07797	0.20031
TGM2	0.05	-0.31	0.41	0.79173		0.32	-0.03	0.68	0.07817	0.20031
ST2	-0.44	-0.78	-0.11	0.01028		-0.31	-0.66	0.04	0.08591	0.21745
KPNA1	0.04	-0.17	0.25	0.70306		0.17	-0.02	0.37	0.08635	0.21745
DGKZ	-1.15	-2.26	-0.07	0.03892		-0.81	-1.72	0.14	0.08662	0.21745
DCTN1	0.22	-0.10	0.54	0.18676		0.28	-0.05	0.62	0.09799	0.24280
FCRL3	0.25	-0.30	0.81	0.37236		0.45	-0.08	1.00	0.09804	0.24280
IL2_RA	-0.21	-0.58	0.16	0.26340		0.34	-0.07	0.75	0.10739	0.26307
MCP_1	-0.25	-0.69	0.18	0.25640		0.44	-0.09	0.98	0.10765	0.26307
ARNT	0.09	-0.11	0.30	0.38719		0.18	-0.03	0.41	0.11089	0.26921
LTBR	-0.23	-0.71	0.24	0.33927		0.46	-0.11	1.03	0.11377	0.27392
Q29980_MIC_A_B	-0.01	-0.19	0.17	0.91257		0.15	-0.04	0.33	0.11475	0.27392
CD207	0.18	-0.30	0.68	0.45893		0.44	-0.10	0.99	0.11522	0.27392
HSP_27	0.53	0.08	0.99	0.02104		0.39	-0.09	0.87	0.11580	0.27392
TGF_ALPHA	-0.01	-0.62	0.59	0.96843		0.49	-0.13	1.12	0.12091	0.28417
ITGB2	-0.05	-0.46	0.36	0.82160		0.37	-0.10	0.84	0.12318	0.28768
PSP_D	0.04	-0.23	0.31	0.76365		0.24	-0.06	0.55	0.12468	0.28935
CXADR	-0.18	-0.61	0.24	0.40283		-0.35	-0.81	0.10	0.12903	0.29758
PCSK9	-0.42	-0.90	0.04	0.07643		-0.41	-0.94	0.12	0.13115	0.30059
VWF	-0.14	-0.36	0.08	0.22046		0.17	-0.05	0.39	0.13350	0.30319
HGF	-0.51	-0.91	-0.13	0.01005		-0.30	-0.69	0.09	0.13456	0.30319
XPNPEP2	-0.03	-0.29	0.24	0.84233		-0.22	-0.52	0.07	0.13504	0.30319
IL6	-0.09	-0.32	0.13	0.40808		-0.16	-0.38	0.05	0.13557	0.30319
PGLYRP1	-0.10	-0.49	0.27	0.59994		0.32	-0.10	0.73	0.13680	0.30410
TNF_R1	-0.27	-0.75	0.20	0.25688		0.39	-0.13	0.90	0.14134	0.31231
GLO1	-0.23	-0.59	0.11	0.19003		-0.26	-0.62	0.09	0.14384	0.31594
CCL3	0.10	-0.22	0.44	0.53444		0.27	-0.09	0.65	0.14834	0.32388
CPA1	-0.02	-0.24	0.20	0.87629		-0.18	-0.44	0.07	0.15184	0.32869
CDSN	0.11	-0.30	0.52	0.60961		0.34	-0.12	0.82	0.15232	0.32869
CEACAM5	-0.32	-0.62	-0.03	0.03483		-0.21	-0.50	0.07	0.15391	0.33018
Q14213_IL_27	0.64	0.17	1.13	0.00894		0.34	-0.14	0.83	0.16667	0.35549
IGFBP_1	-0.19	-0.37	-0.01	0.04368		0.14	-0.06	0.34	0.16918	0.35712
TRAF2	0.12	-0.34	0.59	0.61714		0.32	-0.13	0.78	0.16937	0.35712
CCL17	0.13	-0.09	0.35	0.26303		0.16	-0.07	0.39	0.17087	0.35824
CAIX	-0.12	-0.43	0.20	0.46880		0.21	-0.09	0.53	0.17384	0.36240
FABP4	-0.33	-0.59	-0.08	0.01056		-0.19	-0.48	0.08	0.17637	0.36562
GDF15	0.00	0.00	0.00	0.14718		0.00	0.00	0.00	0.18073	0.37257
FGF_23	-0.15	-0.34	0.05	0.13877		-0.13	-0.31	0.06	0.19080	0.39114
TNF_R2	-0.19	-0.60	0.21	0.34900		0.30	-0.16	0.76	0.19803	0.40208
CCL22	-0.31	-0.54	-0.08	0.00774		-0.14	-0.36	0.08	0.19838	0.40208
THPO	0.31	-0.19	0.83	0.23289		-0.36	-0.92	0.19	0.19940	0.40208
S100A11	0.00	-0.76	0.76	0.99633		0.49	-0.22	1.29	0.20444	0.40841
SOD2	0.15	-1.63	1.99	0.86628		-1.15	-2.98	0.61	0.20476	0.40841
CD28	0.13	-0.35	0.59	0.60045		0.31	-0.17	0.79	0.20982	0.41625
PARP_1	-0.23	-0.59	0.10	0.18434		-0.19	-0.50	0.11	0.21231	0.41895

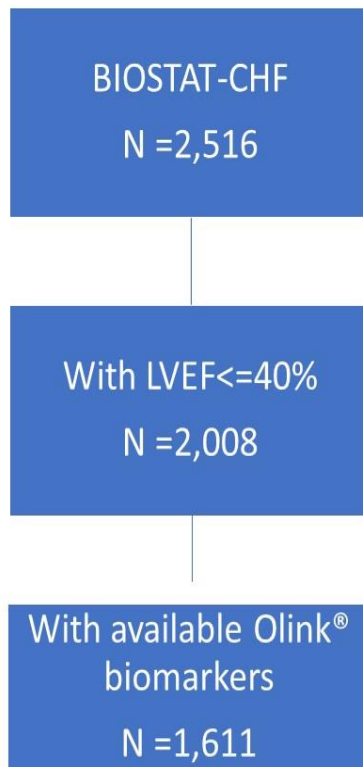
REN	0.24	-0.03	0.51	0.08428		0.19	-0.11	0.50	0.21824	0.42835
IRF9	0.23	-0.24	0.76	0.37006		0.32	-0.17	0.86	0.22074	0.43097
KIM1	0.17	-0.08	0.42	0.19166		0.17	-0.10	0.44	0.22380	0.43464
FAS	-0.29	-0.77	0.16	0.21044		0.34	-0.22	0.90	0.22690	0.43719
CTRC	0.18	-0.03	0.40	0.09507		0.14	-0.09	0.36	0.22748	0.43719
MMP_2	-0.39	-0.80	0.01	0.05633		0.28	-0.17	0.73	0.23039	0.44049
TLR3	0.27	-0.05	0.60	0.09875		0.21	-0.13	0.55	0.23307	0.44286
GPNMB	0.08	-0.96	1.13	0.88135		0.64	-0.41	1.69	0.23403	0.44286
IL_1RA	-0.03	-0.32	0.26	0.82415		-0.19	-0.51	0.12	0.23779	0.44767
AREG_X	-0.03	-0.42	0.36	0.89094		0.24	-0.16	0.66	0.24317	0.45401
IL_6RA	-0.37	-0.85	0.09	0.12217		0.30	-0.21	0.82	0.24453	0.45401
TNFRSF10A	-0.01	-0.55	0.53	0.96291		0.31	-0.22	0.85	0.25185	0.46466
EIF5A	0.27	-0.22	0.78	0.29115		0.22	-0.14	0.64	0.25526	0.46861
MAD_HOMOLOG_5	0.76	-0.73	2.29	0.32218		0.87	-0.64	2.43	0.26751	0.48462
IFNLR1	-0.07	-0.67	0.53	0.81265		0.35	-0.27	0.97	0.26792	0.48462
SPARC	-0.01	-0.76	0.76	0.98671		-0.43	-1.21	0.34	0.27002	0.48603
PTH1R	-0.17	-0.75	0.40	0.57070		-0.31	-0.80	0.29	0.27527	0.49309
CLEC4D	-0.03	-0.38	0.31	0.85851		0.20	-0.16	0.56	0.27839	0.49626
ITGB6	0.46	-0.08	1.04	0.10333		0.32	-0.25	0.91	0.28160	0.49956
VEGFD	-0.31	-0.90	0.26	0.29307		-0.33	-0.94	0.27	0.28705	0.50354
GAL_3	-0.31	-0.77	0.13	0.17275		0.28	-0.24	0.79	0.28779	0.50354
SPON1	-0.29	-0.78	0.20	0.25312		0.30	-0.25	0.84	0.28931	0.50354
GZMB	0.05	-0.30	0.40	0.77926		0.19	-0.16	0.55	0.28939	0.50354
EIF4G1	0.02	-0.21	0.25	0.86403		-0.13	-0.36	0.11	0.29066	0.50354
STC1	0.19	-0.31	0.81	0.50864		0.36	-0.24	1.05	0.29226	0.50395
CLEC4A	0.35	-0.23	0.94	0.24506		0.32	-0.28	0.94	0.29952	0.51202
CA5A	0.05	-0.19	0.28	0.70265		-0.13	-0.37	0.12	0.30094	0.51202
MGMT	0.09	-0.11	0.30	0.36559		-0.11	-0.32	0.10	0.30151	0.51202
COL1A1	-0.32	-0.75	0.10	0.13881		-0.24	-0.71	0.22	0.30450	0.51202
UPA	-0.18	-0.61	0.17	0.36304		-0.24	-0.70	0.21	0.30500	0.51202
SPON2	-0.38	-1.62	0.83	0.53718		0.66	-0.59	1.96	0.30630	0.51202
ERBB4	-0.19	-0.91	0.51	0.59347		-0.38	-1.11	0.34	0.30874	0.51202
FS	0.02	-0.39	0.43	0.92250		0.23	-0.21	0.67	0.30896	0.51202
BNP	-0.08	-0.31	0.15	0.51005		-0.11	-0.33	0.10	0.30943	0.51202
MMP7	0.10	-0.37	0.58	0.66731		0.26	-0.24	0.76	0.31355	0.51652
HK8	0.02	-0.49	0.53	0.93941		0.29	-0.28	0.87	0.31612	0.51844
TRAIL_R2	0.02	-0.38	0.45	0.90476		0.21	-0.17	0.68	0.32242	0.52643
ANGPT1	0.00	-0.19	0.19	0.99626		-0.10	-0.29	0.10	0.33501	0.54458
SLAMF7	-0.19	-0.53	0.14	0.25777		0.15	-0.16	0.47	0.34015	0.55050
TNFRSF10C	-0.16	-0.54	0.21	0.39304		0.21	-0.22	0.64	0.34310	0.55285
IDUA	-0.40	-0.87	0.05	0.08529		-0.23	-0.71	0.24	0.34487	0.55330
RET	0.18	-0.25	0.61	0.42203		-0.21	-0.67	0.23	0.34971	0.55817
CD40_L	0.08	-0.15	0.31	0.49693		-0.11	-0.33	0.12	0.35132	0.55817
IL_18BP	-0.32	-0.75	0.09	0.13588		0.22	-0.25	0.70	0.35263	0.55817
IL10	0.12	-0.16	0.42	0.42800		0.15	-0.16	0.49	0.35396	0.55817
PRDX1	0.29	-0.20	0.78	0.24839		0.25	-0.28	0.80	0.36021	0.56560
HNMT	0.17	-0.20	0.55	0.37757		0.18	-0.21	0.57	0.36804	0.57358
ITGA11	0.06	-0.46	0.59	0.81136		0.24	-0.28	0.77	0.36839	0.57358

HSD11B1	-0.39	-0.92	0.12	0.13812		-0.25	-0.79	0.29	0.37053	0.57380
CCL24	0.07	-0.16	0.30	0.56669		0.11	-0.13	0.35	0.37165	0.57380
HO_1	0.38	-0.11	0.88	0.13340		0.22	-0.27	0.71	0.37859	0.58208
CD4	0.12	-0.52	0.78	0.71042		0.31	-0.38	1.01	0.38080	0.58305
CNTN1	-0.33	-0.80	0.12	0.15416		0.23	-0.29	0.74	0.38662	0.58623
MILR1	0.12	-0.28	0.53	0.54472		0.18	-0.23	0.60	0.38736	0.58623
PLXNA4	0.06	-0.16	0.29	0.56944		-0.10	-0.32	0.12	0.38764	0.58623
PSGL_1	-0.24	-1.11	0.63	0.59498		-0.38	-1.24	0.48	0.39287	0.59111
CPB1	-0.02	-0.26	0.21	0.84238		-0.12	-0.39	0.15	0.39407	0.59111
AXL	-0.68	-1.17	-0.21	0.00558		-0.21	-0.74	0.31	0.42153	0.62813
THBS2	0.32	-0.55	1.20	0.47442		0.38	-0.55	1.31	0.42366	0.62813
GT	0.06	-0.23	0.35	0.66836		0.14	-0.20	0.49	0.42386	0.62813
TCL1A	-0.13	-0.33	0.07	0.19258		-0.07	-0.26	0.11	0.43897	0.64029
GALNT3	0.12	-0.36	0.60	0.63890		0.20	-0.29	0.70	0.43915	0.64029
GAL_4	-0.01	-0.33	0.30	0.94650		0.14	-0.22	0.51	0.44212	0.64029
BLM_HYDROLASE	-0.08	-0.52	0.36	0.71412		0.19	-0.30	0.70	0.44242	0.64029
TRIM5	0.12	-0.51	0.76	0.70816		0.23	-0.35	0.84	0.44577	0.64029
EGLN1	-0.38	-1.01	0.23	0.22752		-0.21	-0.75	0.34	0.44744	0.64029
NT_PRO_BNP	-0.13	-0.51	0.25	0.50271		0.16	-0.25	0.59	0.44789	0.64029
TRIM21	0.04	-0.37	0.45	0.84762		0.15	-0.24	0.56	0.44921	0.64029
NF2	-0.02	-0.32	0.28	0.89408		-0.11	-0.39	0.18	0.44942	0.64029
TR_AP	-0.53	-0.97	-0.10	0.01704		-0.17	-0.64	0.29	0.46415	0.65608
KLK6	-0.13	-0.61	0.36	0.60856		0.20	-0.34	0.75	0.46542	0.65608
CDKN1A	0.14	-0.11	0.40	0.27394		-0.10	-0.36	0.17	0.46584	0.65608
BOC	-0.30	-0.97	0.37	0.37938		-0.26	-0.98	0.45	0.46833	0.65708
PDGF_SUBUNIT_B	0.03	-0.12	0.19	0.67067		-0.06	-0.22	0.10	0.47509	0.65990
ICAM_2	-0.41	-0.84	0.00	0.05283		-0.16	-0.62	0.28	0.47535	0.65990
IGG_FC_RECEPTOR_II_B	-0.13	-0.37	0.11	0.28853		0.09	-0.16	0.35	0.47791	0.65990
CCL16	-0.05	-0.39	0.28	0.76401		-0.13	-0.49	0.22	0.47908	0.65990
SRC	0.16	-0.05	0.37	0.12857		-0.08	-0.30	0.14	0.47927	0.65990
IL_1RT1	-0.63	-1.12	-0.17	0.00833		-0.20	-0.76	0.36	0.49040	0.67109
CRNN	0.10	-0.13	0.34	0.39405		0.08	-0.15	0.33	0.49104	0.67109
LYPD3	-0.11	-0.62	0.39	0.66195		-0.19	-0.73	0.35	0.49509	0.67413
FABP2	0.13	-0.10	0.37	0.28069		0.09	-0.16	0.34	0.49876	0.67663
VEGFR_3	0.20	-0.79	1.20	0.68733		-0.34	-1.33	0.64	0.50187	0.67835
CCL15	-0.25	-0.66	0.15	0.21963		0.15	-0.28	0.59	0.50502	0.68011
LOX_1	-0.28	-0.65	0.08	0.12871		-0.13	-0.51	0.25	0.50881	0.68273
CXL17	-0.06	-0.43	0.29	0.73197		0.12	-0.24	0.48	0.51449	0.68682
SERPINA12	-0.11	-0.34	0.11	0.32753		-0.08	-0.34	0.17	0.51765	0.68682
STK4	0.07	-0.13	0.28	0.47381		-0.07	-0.28	0.14	0.51887	0.68682
FCRLB	0.02	-0.30	0.36	0.91027		-0.11	-0.46	0.24	0.51930	0.68682
IL18	-0.10	-0.47	0.26	0.58474		-0.12	-0.50	0.25	0.52214	0.68700
SCAMP3	0.12	-0.10	0.35	0.27830		-0.07	-0.30	0.16	0.52317	0.68700
PD_L2	0.17	-0.44	0.77	0.58717		0.19	-0.40	0.79	0.52985	0.69332
IRAK1	0.23	-0.33	0.79	0.41796		0.17	-0.36	0.72	0.53632	0.69821
HB_EGF	0.38	-0.12	0.90	0.14044		0.16	-0.34	0.69	0.53737	0.69821
HEXIM1	0.09	-0.20	0.39	0.53733		-0.09	-0.38	0.20	0.54320	0.70106
IL5	-0.03	-0.25	0.19	0.80836		-0.08	-0.34	0.18	0.54394	0.70106

CLEC4C	-0.23	-0.64	0.17	0.26136		-0.13	-0.54	0.28	0.54568	0.70106
KRT19	0.02	-0.28	0.32	0.88438		0.11	-0.23	0.46	0.54717	0.70106
FASLG	0.14	-0.32	0.60	0.55576		0.13	-0.31	0.56	0.55674	0.70665
ITGA6	-0.09	-0.69	0.51	0.77330		-0.17	-0.72	0.40	0.55879	0.70665
IRAK4	0.02	-0.19	0.24	0.85368		-0.06	-0.28	0.15	0.55926	0.70665
GIF	-0.15	-0.32	0.03	0.09941		-0.06	-0.26	0.14	0.56008	0.70665
TR	-0.06	-0.34	0.21	0.66863		0.09	-0.22	0.40	0.56111	0.70665
PDGF_SUBUNIT_A	-0.06	-0.31	0.18	0.61025		-0.07	-0.31	0.18	0.59747	0.74989
PRTN3	-0.18	-0.53	0.18	0.33540		0.10	-0.27	0.47	0.60069	0.75137
PODXL	0.48	-0.60	1.58	0.38259		0.29	-0.81	1.42	0.60790	0.75540
CEACAM8	0.07	-0.30	0.45	0.70072		0.10	-0.27	0.48	0.60816	0.75540
FGF2	0.03	-0.37	0.44	0.87878		-0.11	-0.52	0.31	0.61279	0.75540
LYN	0.19	-0.15	0.54	0.28356		-0.09	-0.44	0.26	0.61506	0.75540
EP_CAM	-0.20	-0.45	0.04	0.11023		-0.07	-0.34	0.20	0.61751	0.75540
XCL1	-0.06	-0.43	0.30	0.73211		0.10	-0.28	0.47	0.61754	0.75540
DAPP1	0.11	-0.03	0.26	0.12343		-0.04	-0.18	0.11	0.61929	0.75540
PTX3	-0.02	-0.45	0.41	0.92931		-0.11	-0.55	0.33	0.62191	0.75540
SPRY2	-0.02	-0.27	0.23	0.86474		-0.06	-0.31	0.19	0.62360	0.75540
IGFBP_7	-0.53	-0.90	-0.18	0.00384		-0.10	-0.52	0.31	0.62438	0.75540
TFPI_2	-0.42	-0.83	-0.02	0.04397		-0.10	-0.52	0.31	0.62842	0.75781
IL_17RA	-0.25	-0.67	0.15	0.22145		-0.11	-0.58	0.35	0.63645	0.76385
CTSZ	-0.36	-0.82	0.07	0.10610		0.12	-0.36	0.60	0.63758	0.76385
BMP_6	0.04	-0.40	0.50	0.84556		0.09	-0.31	0.50	0.65704	0.78463
CD93	-0.61	-1.11	-0.12	0.01594		-0.12	-0.69	0.44	0.66786	0.79497
SH2B3	0.11	-0.11	0.33	0.31605		-0.05	-0.26	0.17	0.67311	0.79864
TPSAB1	-0.01	-0.40	0.37	0.94944		0.08	-0.32	0.49	0.68139	0.80587
CXCL1	0.16	-0.07	0.39	0.18229		0.05	-0.18	0.28	0.69312	0.81713
NTF4	-0.57	-1.09	-0.09	0.02250		-0.09	-0.56	0.38	0.70049	0.82070
ALCAM	-0.73	-1.27	-0.22	0.00640		-0.11	-0.69	0.46	0.70060	0.82070
MEPE	-0.52	-0.93	-0.13	0.01045		-0.08	-0.52	0.36	0.71393	0.83367
METAP_2	0.07	-0.30	0.44	0.71869		0.07	-0.32	0.46	0.72705	0.84631
PIK3AP1	-0.22	-0.57	0.13	0.21448		-0.06	-0.39	0.28	0.73135	0.84865
SORT1	0.52	-0.15	1.21	0.13265		0.11	-0.57	0.79	0.74224	0.85858
CASP_3	0.05	-0.17	0.27	0.63669		0.04	-0.19	0.26	0.74747	0.86193
CTSL1	0.12	-0.35	0.60	0.60756		0.08	-0.43	0.58	0.76649	0.87910
JAM_A	-0.16	-0.51	0.17	0.34299		-0.05	-0.40	0.30	0.76713	0.87910
FADD	0.00	-0.43	0.43	0.99669		-0.07	-0.50	0.38	0.77223	0.88220
DFFA	-0.07	-0.47	0.32	0.72077		-0.05	-0.41	0.32	0.78041	0.88805
AGRP	0.17	-0.33	0.67	0.50954		-0.07	-0.57	0.43	0.78216	0.88805
EGF	0.10	-0.06	0.27	0.22502		-0.02	-0.19	0.14	0.78507	0.88810
MASP1	-0.29	-1.05	0.47	0.45286		0.11	-0.69	0.92	0.78702	0.88810
PSIP1	-0.17	-0.50	0.14	0.28438		-0.04	-0.32	0.26	0.79789	0.89690
ADAM_8	-0.13	-0.71	0.44	0.65417		0.08	-0.53	0.70	0.79968	0.89690
PIGR	0.78	-0.94	2.53	0.37655		-0.22	-1.98	1.55	0.80433	0.89939
CLEC6A	-0.08	-0.51	0.35	0.71628		0.06	-0.41	0.53	0.81634	0.91006
BACH1	-0.06	-0.67	0.54	0.83725		0.06	-0.46	0.60	0.82112	0.91263
PRKCQ	0.12	-0.38	0.63	0.63506		-0.06	-0.61	0.49	0.82395	0.91302
RARRES2	-0.34	-0.92	0.20	0.22869		0.07	-0.60	0.74	0.82948	0.91398

ACE2	0.08	-0.26	0.41	0.65077		-0.04	-0.37	0.30	0.82976	0.91398
HCLS1	0.09	-0.18	0.36	0.50094		0.03	-0.24	0.30	0.83755	0.91981
CDH5	-0.38	-0.81	0.03	0.07468		-0.05	-0.53	0.43	0.84264	0.92127
FXYD5	0.47	-0.28	1.24	0.22132		0.08	-0.67	0.83	0.84387	0.92127
CD163	-0.43	-0.81	-0.07	0.02291		-0.04	-0.44	0.36	0.84965	0.92484
LAMP3	-0.01	-0.35	0.34	0.96039		-0.03	-0.40	0.33	0.85556	0.92668
KLK13	0.07	-0.34	0.48	0.73972		0.04	-0.41	0.49	0.85705	0.92668
SELP	-0.13	-0.47	0.21	0.45957		-0.03	-0.39	0.33	0.85964	0.92668
BIRC2	-0.25	-1.20	0.66	0.60221		0.07	-0.69	0.86	0.86138	0.92668
EPHB4	-0.40	-0.95	0.13	0.14297		0.05	-0.55	0.65	0.86616	0.92911
SRPK2	0.06	-0.27	0.39	0.72702		-0.02	-0.32	0.29	0.88507	0.94540
ITGB1BP2	0.12	-0.09	0.33	0.25857		-0.02	-0.23	0.20	0.88881	0.94540
IL_4RA	0.03	-0.47	0.53	0.91024		-0.04	-0.55	0.49	0.88911	0.94540
PRDX5	0.10	-0.16	0.37	0.44950		0.02	-0.26	0.30	0.89159	0.94540
MK	-0.13	-0.40	0.15	0.36445		-0.02	-0.32	0.28	0.89442	0.94568
OPN	-0.41	-0.78	-0.06	0.02308		-0.02	-0.40	0.35	0.89778	0.94652
ICA1	0.04	-0.61	0.70	0.89588		0.04	-0.54	0.65	0.90245	0.94822
TXLNA	0.15	-0.10	0.41	0.23596		0.02	-0.23	0.27	0.90475	0.94822
TANK	0.07	-0.35	0.48	0.73888		-0.02	-0.43	0.39	0.90767	0.94822
NEMO	0.15	-0.16	0.46	0.35154		-0.02	-0.32	0.29	0.91203	0.94822
SHPS_1	-0.24	-0.63	0.13	0.20665		0.02	-0.39	0.43	0.91224	0.94822
ZBTB16	0.14	-0.19	0.49	0.40172		-0.02	-0.34	0.32	0.91679	0.95027
PADI2	-0.06	-0.49	0.37	0.79301		-0.02	-0.42	0.39	0.92934	0.96058
PON3	-0.23	-0.52	0.05	0.11636		0.01	-0.30	0.33	0.94159	0.97052
RAGE	0.10	-0.36	0.55	0.67702		0.02	-0.47	0.50	0.95068	0.97281
MPO	-0.24	-0.67	0.18	0.25766		-0.01	-0.45	0.43	0.95097	0.97281
PPP1R9B	0.13	-0.10	0.37	0.26382		0.01	-0.22	0.24	0.95173	0.97281
PECAM_1	-0.26	-0.68	0.14	0.20529		-0.01	-0.45	0.42	0.95435	0.97281
DDX58	-0.01	-0.47	0.45	0.96538		0.01	-0.38	0.41	0.96811	0.98244
HK14	-0.25	-0.68	0.18	0.25455		-0.01	-0.43	0.41	0.96913	0.98244
AZU1	-0.29	-0.67	0.09	0.13413		0.00	-0.35	0.37	0.97994	0.98883
FR_GAMMA	0.04	-0.07	0.16	0.46458		0.00	-0.13	0.13	0.98116	0.98883
CD83	-0.18	-0.71	0.34	0.49984		-0.01	-0.54	0.54	0.98359	0.98883
MSLN	0.21	-0.10	0.53	0.17916		0.00	-0.34	0.33	0.98615	0.98883
TRAIL	-0.52	-1.18	0.14	0.12259		0.00	-0.57	0.58	0.99300	0.99300

Supplemental Figure 1. BIOSTAT-CHF study flow-chart



STROBE Statement—Checklist of items that should be included in reports of *cohort studies*

	Item No	Recommendation	Page No
Title and abstract	1	(a) Indicate the study's design with a commonly used term in the title or the abstract	3
		(b) Provide in the abstract an informative and balanced summary of what was done and what was found	3
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	6
Objectives	3	State specific objectives, including any prespecified hypotheses	6
Methods			
Study design	4	Present key elements of study design early in the paper	7
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	7
Participants	6	(a) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up (b) For matched studies, give matching criteria and number of exposed and unexposed	8
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	8
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	8
Bias	9	Describe any efforts to address potential sources of bias	9
Study size	10	Explain how the study size was arrived at	9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	10
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) If applicable, explain how loss to follow-up was addressed (e) Describe any sensitivity analyses	10
Results			

Participants	13*	<p>(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed</p> <p>(b) Give reasons for non-participation at each stage</p> <p>(c) Consider use of a flow diagram</p>	11
Descriptive data	14*	<p>(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders</p> <p>(b) Indicate number of participants with missing data for each variable of interest</p> <p>(c) Summarise follow-up time (eg, average and total amount)</p>	12
Outcome data	15*	Report numbers of outcome events or summary measures over time	12

Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	12
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12
Discussion			
Key results	18	Summarise key results with reference to study objectives	13, 14, 15, 16
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	17
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	17
Generalisability	21	Discuss the generalisability (external validity) of the study results	17
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	18

*Give information separately for exposed and unexposed groups.

Note: An Explanation and Elaboration article discusses each checklist item and gives methodological background and published examples of transparent reporting. The STROBE checklist is best used in conjunction with this article (freely available on the Web sites of PLoS Medicine at <http://www.plosmedicine.org/>, Annals of Internal Medicine at <http://www.annals.org/>, and Epidemiology at <http://www.epidem.com/>). Information on the STROBE Initiative is available at <http://www.strobe-statement.org>.