Supplementary Table 1 Gene fold change of Pre-LARS compared to healthy controls

Gene	Fold change	*P* value	Gene	Fold change	*P* value
AGT	-5.3	0.233	MAP2K4	-1.3	0.403
AKT1	-1.4	0.178	MAP2K6	1.2	0.416
AKT2	5.5	0.388	MAP3K1	-1.6	0.135
AKT3	-2.4	0.503	MAPK1	-1.3	0.099
ATF1	1.0	0.930	MAPK3	-1.2	0.509
BCL10	-1.1	0.679	MCM5	-1.5	0.143
BCL2	-1.4	0.242	MMP9	2.1	0.272
BCL2L1	-1.2	0.739	MYC	-1.3	0.424
BCL3	1.3	0.434	NFKB1	1.2	0.486
BIRC2	-1.2	0.403	NFKB2	2.1	0.525
BIRC4	1.2	0.527	NFKBIA	-1.4	0.281
BRCA1	-2.1	0.267	NLRP12	1.7	0.596
CASP1	-1.2	0.397	NOD1	-1.4	0.363
CASP8	1.0	0.895	NRAS	1.0	0.992
CCL2	**-2.3**	0.049	PIAS1	-1.3	0.229
CD4	-1.1	0.944	PIAS2	-1.2	0.441
CD40	-1.6	0.294	PIAS3	2.5	0.394
CFLAR	-1.1	0.701	PIAS4	1.3	0.570
CHUK	1.0	0.902	PIK3CA	1.1	0.720
CREBBP	1.2	0.843	PIK3CB	1.2	0.457
CSF1	1.0	0.984	PIK3CD	1.5	0.719
CSF2	-1.4	0.768	PIK3R1	1.8	0.480
CSF3	12.3	0.135	PIK3R2	6.1	0.358
EDARADD	-1.1	0.754	PPM1A	1.0	0.928
EDG2	-1.1	0.824	PRL	-1.3	0.830
EGF	**-2.2**	0.025	PRLR	-1.2	0.796
EGFR	1.8	0.302	PSMA3	1.9	0.379
EGR1	-1.2	0.673	PSMB5	1.1	0.701
ELK1	1.8	0.445	PSMC4	1.0	0.882

EP300	-1.4	0.303	**PSMC5**	-1.3	0.137
EPO	-2.7	0.349	**PSMD4**	1.0	0.847
EPOR	1.0	0.970	**PTPN11**	-1.5	0.059
ERBB2	-3.8	0.360	**RAF1**	1.4	0.174
F2R	2.8	0.347	**RAN**	-1.1	0.258
FADD	-1.1	0.463	**RELV**	-13.1	0.363
FASLG	-4.0	0.245	**RELA**	-1.2	0.596
FGF2	1.0	0.933	**RELB**	-1.4	0.382
FOS	-2.5	0.139	**RHOA**	1.0	0.884
GH1	14.0	0.315	**RIPK1**	-5.8	0.133
GHR	28.7	0.336	**SELL**	-1.8	0.333
GJA1	1.1	0.835	**SELP**	-2.1	0.208
GRB2	1.1	0.812	**SMAD3**	-1.1	0.471
HMOX1	-1.3	0.268	**SMAD4**	1.6	0.520
HRAS	1.2	0.388	**SOCS1**	2.2	0.455
HTR2B	-1.2	0.619	**SOCS2**	-1.6	0.094
ICAM1	1.3	0.662	**SOCS3**	2.3	0.418
IFNA1	-1.2	0.850	**SOS1**	-1.2	0.396
IFNA2	-4.1	0.453	**SP1**	-1.3	0.265
IFNAB	1.1	0.947	**SRC**	-1.1	0.889
IFNAR1	1.7	0.551	**STAM**	1.3	0.277
IFNB1	1.4	0.744	**STAT1**	-1.2	0.808
IFNG	-1.2	0.550	**STAT2**	-1.6	0.340
IFNGR1	-1.4	0.051	**STAT3**	1.4	0.489
IGF1R	-1.2	0.445	**STAT4**	-1.5	0.376
IKBKB	-1.1	0.702	**STAT5A**	1.6	0.380
IKBKE	2.9	0.326	**STAT5B**	1.4	0.575
IL10	-1.4	0.776	**STAT6**	1.4	0.482
IL12A	19.8	0.226	**SUMO1**	-1.2	0.253
IL12B	-2.0	0.632	**TBK1**	-1.2	0.279
IL1A	-2.3	0.070	**THPO**	-1.6	0.663

IL1B	1.1	0.902	**TICAM1**	1.1	0.679
IL1R1	-1.2	0.504	**TICAM2**	-1.1	0.762
IL1R2	1.0	0.984	**TLR1**	-1.3	0.561
IL2RA	7.3	0.355	**TLR2**	-1.1	0.876
IL4R	1.2	0.486	**TLR3**	1.1	0.836
IL6	5.3	0.322	**TLR4**	1.0	0.956
IL8	2.3	0.437	**TLR7**	1.3	0.788
IRAK2	1.7	0.430	**TLR8**	1.0	0.971
IRF9	-1.4	0.231	**TLR9**	-2.1	0.544
JAK1	1.3	0.438	**TMED4**	-1.2	0.299
JAK2	1.2	0.708	**TNF**	-1.5	0.504
JAK3	2.2	0.363	**TNFAIP3**	-1.7	0.226
JUN	1.1	0.844	**TNFRSF10 A**	-1.2	0.679
KIT	1.0	0.931	**TNFRSF1A**	-1.1	0.903
KRAS	-1.3	0.679	**TNFRSF1B**	4.1	0.213
LTA	-2.9	0.449	**TNFSF10**	-1.8	0.588
LTB	-2.7	0.442	**TRADD**	-1.7	0.411
LTBR	1.2	0.462	**TYK2**	1.0	0.806
MALT1	-1.1	0.670	**VEGFA**	1.3	0.377
MAP2K1	-1.1	0.799			

Supplementary Table 2 Gene fold change of POST-LARS compared to PRE-LARS

Gene	Fold change	*P* value	Gene	Fold change	*P* value
AGT	-2.0	0.232	MAP2K4	**-2.4**	**0.008**
AKT1	**-1.7**	**0.028**	MAP2K6	1.1	0.831
AKT2	-2.9	0.294	MAP3K1	-1.5	0.155
AKT3	-1.9	0.339	MAPK1	1.3	0.078
ATF1	1.2	0.498	MAPK3	-1.3	0.268
BCL10	1.3	0.254	MCM5	-1.8	0.079
BCL2	1.1	0.780	MMP9	-1.3	0.786
BCL2L1	-1.4	0.504	MYC	-1.7	0.096
BCL3	**2.7**	**0.037**	NFKB1	1.3	0.327
BIRC2	1.1	0.654	NFKB2	2.9	0.419
BIRC4	1.8	0.129	NFKBIA	-1.4	0.132
BRCA1	1.7	0.349	NLRP12	3.8	0.284
CASP1	1.0	0.855	NOD1	1.1	0.600
CASP8	1.5	0.227	NRAS	1.2	0.329
CCL2	-1.6	0.131	PIAS1	1.3	0.188
CD4	-1.9	0.326	PIAS2	1.0	0.814
CD40	1.3	0.492	PIAS3	-3.0	0.340
CFLAR	1.1	0.769	PIAS4	-2.7	0.152
CHUK	1.2	0.698	PIK3CA	-1.2	0.552
CREBBP	-7.0	0.220	PIK3CB	-1.2	0.593
CSF1	1.2	0.770	PIK3CD	-3.2	0.352
CSF2	3.4	0.398	PIK3R1	-1.7	0.501
CSF3	2.6	0.346	PIK3R2	-14.0	0.308
EDARADD	1.3	0.525	PPM1A	1.1	0.662
EDG2	1.2	0.582	PRL	-4.4	0.296
EGF	**1.5**	**0.052**	PRLR	-1.2	0.677
EGFR	-1.4	0.513	PSMA3	-2.1	0.339
EGR1	-1.3	0.514	PSMB5	-1.2	0.322
ELK1	3.7	0.190	PSMC4	1.0	0.745

EP300	-1.9	0.118	**PSMC5**	1.2	0.197
EPO	-2.0	0.331	**PSMD4**	-1.1	0.486
EPOR	-6.5	0.296	**PTPN11**	1.0	0.895
ERBB2	1.6	0.506	**RAF1**	-1.1	0.680
F2R	3.6	0.264	**RAN**	1.1	0.242
FADD	1.2	0.407	**RELV**	18.1	0.328
FASLG	-1.3	0.645	**RELA**	1.5	0.261
FGF2	**-5.4**	**0.036**	**RELB**	-1.1	0.824
FOS	1.6	0.485	**RHOA**	-1.1	0.733
GH1	-3.9	0.293	**RIPK1**	**-4.6**	**0.032**
GHR	-1.9	0.322	**SELL**	1.4	0.449
GJA1	-1.5	0.310	**SELP**	1.5	0.364
GRB2	-1.4	0.258	**SMAD3**	1.3	0.028
HMOX1	-1.4	0.142	**SMAD4**	-2.0	0.381
HRAS	**-2.2**	**0.006**	**SOCS1**	-5.7	0.226
HTR2B	-1.6	0.499	**SOCS2**	1.3	0.141
ICAM1	2.1	0.357	**SOCS3**	-7.4	0.198
IFNA1	4.4	0.179	**SOS1**	**1.5**	**0.025**
IFNA2	-3.4	0.284	**SP1**	1.3	0.069
IFNAB	2.2	0.343	**SRC**	-2.0	0.354
IFNAR1	-3.4	0.314	**STAM**	1.2	0.467
IFNB1	-5.8	0.114	**STAT1**	-2.2	0.300
IFNG	-1.1	0.650	**STAT2**	2.0	0.181
IFNGR1	1.0	0.762	**STAT3**	-1.6	0.390
IGF1R	1.0	0.910	**STAT4**	-1.5	0.405
IKBKB	1.0	0.999	**STAT5A**	-2.8	0.110
IKBKE	5.2	0.225	**STAT5B**	-1.9	0.342
IL10	-3.2	0.275	**STAT6**	-1.4	0.490
IL12A	1.0	0.208	**SUMO1**	1.2	0.162
IL12B	3.4	0.316	**TBK1**	-1.4	0.241
IL1A	-1.3	0.516	**THPO**	-4.4	0.383

IL1B	-2.2	0.129		TICAM1	1.7	0.070
IL1R1	1.0	0.948		TICAM2	1.1	0.703
IL1R2	-2.2	0.421		TLR1	1.0	0.953
IL2RA	-36.0	0.296		TLR2	1.1	0.796
IL4R	-1.2	0.423		TLR3	-2.0	0.276
IL6	-27.3	0.235		TLR4	1.8	0.484
IL8	-9.9	0.179		TLR7	2.7	0.397
IRAK2	1.3	0.699		TLR8	1.1	0.910
IRF9	-1.6	0.118		TLR9	1.4	0.632
JAK1	-1.3	0.365		TMED4	-1.4	0.114
JAK2	-1.1	0.769		TNF	1.4	0.617
JAK3	-10.1	0.092		TNFAIP3	1.1	0.715
JUN	1.6	0.073		TNFRSF10A	1.1	0.774
KIT	-2.0	0.141		TNFRSF1A	**-4.0**	**0.049**
KRAS	1.6	0.178		TNFRSF1B	-4.3	0.209
LTA	57.0	0.298		TNFSF10	1.0	0.990
LTB	2.8	0.276		TRADD	1.2	0.513
LTBR	1.1	0.403		TYK2	-1.2	0.131
MALT1	-1.1	0.717		VEGFA	1.1	0.615
MAP2K1	1.0	0.893				

Supplementary Table 3 Gene fold change of POST-LARS compared to healthy controls

Gene	Fold change	*P* value	Gene	Fold change	*P* value
AGT	-2.6	0.368	MAP2K4	**-3.1**	0.005
AKT1	**-2.4**	0.008	MAP2K6	1.3	0.281
AKT2	-1.3	0.315	MAP3K1	-1.1	0.745
AKT3	-4.6	0.373	MAPK1	1.0	0.944
ATF1	-1.2	0.427	MAPK3	-1.5	0.171
BCL10	-1.4	0.119	MCM5	**-2.8**	0.003
BCL2	-1.5	0.115	MMP9	2.7	0.405
BCL2L1	1.2	0.743	MYC	**-2.2**	0.013
BCL3	**-2.0**	0.028	NFKB1	-1.1	0.614
BIRC2	-1.3	0.095	NFKB2	-1.4	0.420
BIRC4	-1.5	0.078	NFKBIA	1.0	0.843
BRCA1	-1.3	0.676	NLRP12	-2.3	0.424
CASP1	-1.3	0.302	NOD1	-1.5	0.232
CASP8	-1.4	0.232	NRAS	1.2	0.356
CCL2	-1.5	0.261	PIAS1	1.0	0.829
CD4	-3.6	0.335	PIAS2	-1.1	0.565
CD40	-2.0	0.132	PIAS3	-1.2	0.368
CFLAR	-1.2	0.424	PIAS4	**-2.0**	0.009
CHUK	-1.2	0.227	PIK3CA	1.0	0.859
CREBBP	-5.9	0.100	PIK3CB	1.1	0.728
CSF1	-1.2	0.751	PIK3CD	-2.2	0.429
CSF2	-4.8	0.366	PIK3R1	1.0	0.884
CSF3	4.8	0.259	PIK3R2	**-2.3**	0.026
EDARADD	-1.4	0.163	PPM1A	-1.1	0.670
EDG2	-1.3	0.359	PRL	-5.5	0.327
EGF	-1.4	0.197	PRLR	-1.4	0.464
EGFR	1.3	0.607	PSMA3	-1.1	0.567
EGR1	1.1	0.808	PSMB5	-1.1	0.652

ELK1	-2.1	0.139	**PSMC4**	1.0	0.816
EP300	**-2.8**	0.008	**PSMC5**	-1.1	0.613
EPO	-5.4	0.223	**PSMD4**	-1.1	0.397
EPOR	-6.3	0.263	**PTPN11**	**-1.5**	0.011
ERBB2	-2.5	0.465	**RAF1**	**1.6**	0.012
F2R	-1.3	0.698	**RAN**	1.0	0.928
FADD	-1.3	0.061	**RELV**	-2.2	0.327
FASLG	-3.0	0.299	**RELA**	**-1.8**	0.015
FGF2	**-5.2**	0.056	**RELB**	-1.3	0.479
FOS	-1.5	0.465	**RHOA**	1.0	0.812
GH1	-2.5	0.484	**RIPK1**	-1.3	0.722
GHR	-5.1	0.161	**SELL**	-2.5	0.202
GJA1	1.6	0.084	**SELP**	-3.1	0.101
GRB2	-1.3	0.336	**SMAD3**	1.2	0.327
HMOX1	1.1	0.568	**SMAD4**	-1.3	0.135
HRAS	**-1.8**	0.005	**SOCS1**	-2.6	0.373
HTR2B	1.3	0.669	**SOCS2**	-1.2	0.371
ICAM1	-1.6	0.411	**SOCS3**	-3.2	0.221
IFNA1	-5.3	0.304	**SOS1**	1.2	0.265
IFNA2	-1.0	0.356	**SP1**	1.1	0.708
IFNAB	-2.1	0.487	**SRC**	-2.2	0.335
IFNAR1	**-2.0**	0.008	**STAM**	1.5	0.071
IFNB1	-4.2	0.401	**STAT1**	-2.5	0.141
IFNG	-1.1	0.786	**STAT2**	1.3	0.576
IFNGR1	-1.4	0.067	**STAT3**	-1.1	0.554
IGF1R	-1.3	0.325	**STAT4**	-2.2	0.098
IKBKB	-1.1	0.582	**STAT5A**	-1.8	0.071
IKBKE	**-1.8**	0.029	**STAT5B**	-1.4	0.336
IL10	-2.0	0.367	**STAT6**	1.0	0.954
IL12A	-5.7	0.150	**SUMO1**	1.0	0.818
IL12B	-6.8	0.403	**TBK1**	1.1	0.605

IL1A	-1.8	0.170	**THPO**	-7.3	0.251
IL1B	-1.7	0.203	**TICAM1**	**-1.5**	0.052
IL1R1	-1.3	0.375	**TICAM2**	-1.3	0.521
IL1R2	-2.2	0.252	**TLR1**	-1.3	0.523
IL2RA	-5.0	0.192	**TLR2**	-1.2	0.749
IL4R	1.0	0.895	**TLR3**	2.1	0.244
IL6	-1.4	0.355	**TLR4**	-1.8	0.550
IL8	-4.3	0.311	**TLR7**	-2.1	0.449
IRAK2	1.3	0.741	**TLR8**	-1.2	0.881
IRF9	**-2.3**	0.005	**TLR9**	-3.1	0.430
JAK1	1.0	0.803	**TMED4**	1.2	0.338
JAK2	1.0	0.843	**TNF**	-2.0	0.154
JAK3	-4.6	0.252	**TNFAIP3**	-1.9	0.124
JUN	**1.7**	0.018	**TNFRSF10A**	-1.3	0.367
KIT	-2.0	0.119	**TNFRSF1A**	-4.3	0.141
KRAS	1.3	0.648	**TNFRSF1B**	-1.1	0.949
LTA	-1.8	0.234	**TNFSF10**	-1.8	0.614
LTB	-7.4	0.281	**TRADD**	-2.0	0.325
LTBR	1.0	0.960	**TYK2**	-1.3	0.242
MALT1	1.0	0.985	**VEGFA**	1.4	0.077
MAP2K1	-1.1	0.711			

Supplementary Table 4 Protein levels of cytokine panel

		Mean (pg/mL)	STD	Median	Variance
CCL26	POST-LARS	8.2	4.4	**6.5***	**18.5**
	PRE-LARS	6.2	6.5	3.9	39.8
	HC	4.2	1.8	4.5	3.4
IL-4	POST-LARS	3.2	1.5	**2.6***	**2.2**
	PRE-LARS	2.3	1.5	2.4	2
	HC	1.8	0.7	1.8	0.5
CCL24	POST-LARS	**28.1*∞**	**22**	21.8	461
	PRE-LARS	14.9	9.8	12.9	91.5
	HC	13.4	13.7	9.8	188
IL-10	POST-LARS	**13.1*∞**	**6.9**	11.8	45.4
	PRE-LARS	9.7	10.5	5.4	103.7
	HC	7.4	3.7	6.7	13.5
CCL8	POST-LARS	**7.9*∞**	**3.7**	7.6	13.3
	PRE-LARS	5.2	4.4	3.9	18.6
	HC	4.1	3	3.3	9.2
CCL7	POST-LARS	**24.5*∞**	**6.3**	22.4	37.9
	PRE-LARS	13.2	6.9	10	45.9
	HC	13.5	6.4	12	41.5
CCL13	POST-LARS	**8.3***	**7.5**	6.6	53.1
	PRE-LARS	6.3	6.2	5.9	36.9
	HC	4.2	2.4	3.5	5.7
CCL17	POST-LARS	**0.7***	**0.4**	0.8	0.1
	PRE-LARS	0.7	0.5	**0.5~**	**0.2**
	HC	0.4	0.3	0.3	0.1
CCL1	POST-LARS	**1.4*∞**	**0.5**	1.3	0.2
	PRE-LARS	0.9	0.6	0.7	0.4
	HC	0.7	0.3	0.7	0.1
CXCL2	POST-LARS	**20.8*∞**	**12.8**	16.5	155.3

	PRE-LARS	11.6	6.9	9.9	45.6
	HC	11.8	5.5	10.7	30.2
IFNG	POST-LARS	**11.7*∞**	**5**	10.5	24.2
	PRE-LARS	6.5	4.5	4	19.5
	HC	5.8	2.4	5.7	5.9
IL1B	POST-LARS	**11.4*∞**	**4.6**	11.3	20.1
	PRE-LARS	7.3	6.4	4.3	38.6
	HC	5.6	2.5	5.1	6.1
CCL21	POST-LARS	66.8	75.5	46.5	5442.8
	PRE-LARS	123	142.1	**81.4~**	**19274.4**
	HC	48.9	67.7	22.4	4588.6
CCL27	POST-LARS	**8.5∞**	**5.4**	**6.8***	**27.5**
	PRE-LARS	4.4	4.6	2.1	20.5
	HC	3.5	2.1	3.2	4.5
CCL11	POST-LARS	9	3.2	**8.4***	**9.6**
	PRE-LARS	6.7	5.7	4.8	30.6
	HC	4.7	2.3	4.2	5.5
MIF	POST-LARS	**167465.0*∞**	**61928.5**	160339	10678025563
	PRE-LARS	95257.5	61594.5	63357.2	3621428723
	HC	89235.6	51629.5	82917.8	2665601928
CCL20	POST-LARS	**13.4***	**17.1**	8	278.8
	PRE-LARS	9.4	12.3	4.7	144.3
	HC	5.5	4.8	3.1	22.8
CCL19	POST-LARS	**62.2***	**33.1**	56.2	1048.1
	PRE-LARS	52.9	77.1	29.5	5620.6
	HC	31.8	23.3	23.4	544.5
CCL23	POST-LARS	**14.0***	**11.6**	10.7	128.5
	PRE-LARS	10.8	10.6	8.9	107.5
	HC	7.8	4.9	7.7	24.1
CXCL12	POST-LARS	76.2	71.8	**52.8***	**4912**
	PRE-LARS	83.2	147.1	48.6	20568.1

	HC	40.4	20.2	33.8	408.6
CCL25	POST-LARS	**629.7*∞**	**104**	631.9	10318.7
	PRE-LARS	391.2	170	315	27576.1
	HC	365.7	121	379.7	14629.2

(*~ vs. HC ∞ vs. Pre-LARS, p<0.05)

Supplementary Table 5 The protein levels of pre-post LARS by subgroups

		Mean	Std. deviation
ERD A/B (*N* = 10)			
CTACK/CCL27	POST-LARS	6.66	3.61
	PRE-LARS	3.37	3.17
EOTAXIN/CCL11	POST-LARS	8.96	2.50
	PRE-LARS	5.03	3.22
MCP3/CCL7	POST-LARS	25.70	4.73
	PRE-LARS	12.09	7.41
MCP4/CCL13	POST-LARS	7.11	1.82
	PRE-LARS	4.20	2.67
MIF	POST-LARS	172432.54	44468.57
	PRE-LARS	91243.07	77383.50
TECK/CCL25	POST-LARS	668.29	109.29
	PRE-LARS	363.14	180.42
ERD C/D (*N* = 6)			
ITAC/CXCL11	POST-LARS	5.40	3.18
	PRE-LARS	3.31	2.08
NERD (*N* = 6)			
NFKappaB	POST-LARS	10.75	0.99
	PRE-LARS	7.50	1.22
BCA1/CXCL13	POST-LARS	0.25	0.08
	PRE-LARS	0.53	0.33
CTACK/CCL27	POST-LARS	6.85	1.43
	PRE-LARS	2.42	2.32
EOTAXIN2/CCL24	POST-LARS	33.61	15.80
	PRE-LARS	11.82	8.05
GRO-b/CXCL2	POST-LARS	18.02	6.42
	PRE-LARS	7.80	4.17
I309/CCL1	POST-LARS	1.33	0.30
	PRE-LARS	0.55	0.22

IFN-g	POST-LARS	10.10	3.22
	PRE-LARS	4.42	2.46
IL1-b	POST-LARS	10.26	2.18
	PRE-LARS	4.27	2.84
IL10	POST-LARS	9.45	3.41
	PRE-LARS	4.11	2.05
MCP2/CCL8	POST-LARS	8.25	4.17
	PRE-LARS	3.57	3.51
MCP3/CCL7	POST-LARS	22.33	3.78
	PRE-LARS	9.93	4.07
MIF	POST-LARS	166120.67	60248.83
	PRE-LARS	59412.91	13380.21
MIP1d/CCL15	POST-LARS	12.75	5.20
	PRE-LARS	3.72	4.08
MIP3-b/CCL19	POST-LARS	49.95	25.43
	PRE-LARS	18.89	20.41
SCYB16/CXCL	POST-LARS	14.62	8.65
	PRE-LARS	6.70	6.24
TECK/CCL25	POST-LARS	609.64	94.98
	PRE-LARS	300.82	92.95
TNFa	POST-LARS	10.82	3.61
	PRE-LARS	4.83	3.01

The significant differences have been given only ($P < 0.05$).