

Additional file 3: Table S2 List of significantly upregulated gene sets in BAL cells of sarcoidosis patients. Note that no gene sets were downregulated at the FDR < 1% threshold.

Upregulated gene set	Number of genes	FDR
PID_IL12_2PATHWAY	62	0
REACTOME_RESPIRATORY_ELECTRON_TRANSPORT_ATP_SYNTHESIS_BY_CHEMIOSMOTIC_COUPLING_AND_HEAT_PRODUCTION	74	0
REACTOME_RESPIRATORY_ELECTRON_TRANSPORT	58	0
PID_CD8TCRPATHWAY	49	0
BIOCARTA_NO2IL12_PATHWAY	17	0
KEGG_PARKINSONS_DISEASE	102	0
PID_CD8TCRDOWNSTREAMPATHWAY	62	0
KEGG_OXIDATIVE_PHOSPHORYLATION	103	0
REACTOME_IMMUNOREGULATORY_INTERACTIONS_BETWEEN_A_LYMPHOID_AND_A_NON_LYMPHOID_CELL	58	0
KEGG_ALLOGRAFT_REJECTION	34	0
REACTOME_TCA_CYCLE_AND_RESPIRATORY_ELECTRON_TRANSPORT	107	0
BIOCARTA_IL12_PATHWAY	21	0
REACTOME_ER_PHAGOSOME_PATHWAY	57	0
REACTOME_CHOLESTEROL_BIOSYNTHESIS	20	0
KEGG_GRAFT_VERSUS_HOST_DISEASE	37	0
ST_T_CELL_SIGNAL_TRANSDUCTION	43	0
BIOCARTA_NKT_PATHWAY	29	0
REACTOME_CHEMOKINE_RECEPTORS_BIND_CHEMOKINES	50	0
BIOCARTA_TCR_PATHWAY	11	0
REACTOME_TRANSLOCATION_OF_ZAP_70_TO_IMMUNOLOGICAL_SYNAPSE	11	0
KEGG_CYTOKINE_CYTOKINE_RECEPTOR_INTERACTION	237	0
REACTOME_TCR_SIGNALING	47	0
KEGG_RIBOSOME	86	0.0001
BIOCARTA_TOB1_PATHWAY	19	0.0001
REACTOME_GENERATION_OF_SECOND_MESSENGER_MOLECULES	24	0.0001
REACTOME_PEPTIDE_CHAIN_ELONGATION	85	0.0001
KEGG_AUTOIMMUNE_THYROID_DISEASE	48	0.0001
REACTOME_APC_C_CDC20_MEDIATED_DEGRADATION_OF_MITOTIC_PROTEINS	60	0.0001
PID_IL23PATHWAY	35	0.0001
REACTOME_SRP_DEPENDENT_COTRANSLATIONAL_PROTEIN_TARGETING_TO_MEMBRANE	106	0.0001
REACTOME_AUTODEGRADATION_OF_CDH1_BY_CDH1_APC_C	52	0.0001
PID_IL12_STAT4PATHWAY	33	0.0001
REACTOME_PHOSPHORYLATION_OF_CD3_AND_TCR_ZETA_CHAINS	12	0.0001
PID_NFAT_TFPATHWAY	45	0.0001
BIOCARTA_TH1TH2_PATHWAY	19	0.0001
KEGG_T_CELL_RECEPTOR_SIGNALING_PATHWAY	104	0.0002
KEGG_STEROID_BIOSYNTHESIS	16	0.0002
REACTOME_SCF5P2_MEDIATED_DEGRADATION_OF_P27_P21	53	0.0002
REACTOME_VIF_MEDIATED_DEGRADATION_OF_APOBEC3G	48	0.0002
KEGG_PRIMARY_IMMUNODEFICIENCY	34	0.0002
BIOCARTA_TCYTOTOXIC_PATHWAY	12	0.0002
PID_TCR_PATHWAY	60	0.0002
REACTOME_REGULATION_OF_MITOTIC_CELL_CYCLE	72	0.0003
BIOCARTA_CTL_PATHWAY	13	0.0003
KEGG_NATURAL_KILLER_CELL_MEDIATED_CYTOTOXICITY	123	0.0003
REACTOME_CYCLIN_E_ASSOCIATED_EVENTS_DURING_G1_S_TRANSITION	62	0.0004
BIOCARTA_TCAPOPTOSIS_PATHWAY	9	0.0004
REACTOME_APC_C_CDH1_MEDIATED_DEGRADATION_OF_CDC20_AND_OTHER_APC_C_CDH1_TARGETED_PROTEINS_IN_LATE_MITOSIS_EARLY_G1	59	0.0006
BIOCARTA_CTLA4_PATHWAY	19	0.0006
KEGG_PROTEASOME	42	0.0006
KEGG_INTESTINAL_IMMUNE_NETWORK_FOR_IGA_PRODUCTION	42	0.0007
PID_IL2_STAT5PATHWAY	30	0.0008
REACTOME_INFLUENZA_VIRAL_RNA_TRANSCRIPTION_AND_REPLICATION	101	0.0010
BIOCARTA_ASBCCELL_PATHWAY	12	0.0010
REACTOME_SCF_BETA_TRCP_MEDIATED_DEGRADATION_OF_EMI1	48	0.0014
REACTOME_REGULATION_OF_ORNITHINE_DECARBOXYLASE_ODC	47	0.0015
BIOCARTA_TCR_PATHWAY	43	0.0016
KEGG_ALZHEIMERS_DISEASE	147	0.0020
BIOCARTA_STATHMIN_PATHWAY	18	0.0021
REACTOME_CDK_MEDIATED_PHOSPHORYLATION_AND_REMOVAL_OF_CDC6	45	0.0021
BIOCARTA_CSK_PATHWAY	22	0.0023
BIOCARTA_THELPER_PATHWAY	12	0.0027
REACTOME_CDT1_ASSOCIATION_WITH_THE_CDC6_ORC_ORIGIN_COMPLEX	52	0.0027
REACTOME_G1_S_TRANSITION	105	0.0028

BIOCARTA_IL17_PATHWAY	15	0.0028
KEGG_TERPENOID_BACKBONE_BIOSYNTHESIS	14	0.0034
REACTOME_DOWNSTREAM_TCR_SIGNALING	31	0.0034
KEGG_TYPE_I_DIABETES_MELLITUS	40	0.0036
REACTOME_ANTIGEN_PROCESSING_CROSS_PRESENTATION	71	0.0036
REACTOME_CELL_CYCLE_CHECKPOINTS	103	0.0040
REACTOME_PD1_SIGNALING	14	0.0042
REACTOME_ADAPTIVE_IMMUNE_SYSTEM	453	0.0047
REACTOME_DESTABILIZATION_OF_MRNA_BY_AUF1_HNRNP_D0	48	0.0053
REACTOME_RIP_MEDIATED_NFKB_ACTIVATION_VIA_DAI	17	0.0062
PID_IL27PATHWAY	25	0.0069
REACTOME_AUTODEGRADATION_OF_THE_E3_UBIQUITIN_LIGASE_COP1	45	0.0069
REACTOME_ORC1_REMOVAL_FROM_CHROMATIN	63	0.0070
REACTOME_M_G1_TRANSITION	76	0.0070
KEGG_HEMATOPOIETIC_CELL_LINEAGE	85	0.0072
REACTOME_3_UTR_MEDIATED_TRANSLATIONAL_REGULATION	105	0.0074
REACTOME_P53_INDEPENDENT_G1_S_DNA_DAMAGE_CHECKPOINT	47	0.0077
REACTOME_P53_DEPENDENT_G1_DNA_DAMAGE_RESPONSE	51	0.0087
KEGG_HUNTINGTONS_DISEASE	156	0.0092
REACTOME_MITOTIC_G1_G1_S_PHASES	126	0.0097
REACTOME_NONSENSE_MEDIATED_DECAY_ENHANCED_BY_THE_EXON_JUNCTION_COMPLEX	104	0.0098
REACTOME_THE_ROLE_OF_NEF_IN_HIV1_REPLICATION_AND_DISEASE_PATHOGENESIS	25	0.0099