OMTN, Volume *12*

Supplemental Information

Integrative Analysis of lncRNAs in Th17 Cell Lineage to Discover New Potential Biomarkers and Therapeutic Targets in Autoimmune Diseases

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Table S1: lncRNA transcripts

lncRNA	Number of transcripts	lncRNA	Number of transcripts	lncRNA	Number of transcripts
RP11-398A8.3	9	AL928768.3	1	RP11-304L19.3	1
AC002331.1	1	CTD-2008A1.1	1	RP11-390P2.4	4
AC007182.6	1	IL21R-AS1	1	RP11-488C13.5	2
AC009948.5	7	LINC00176	4	RP11-509E16.1	1
AC022087.1	1	RP11-126K1.6	1	RP11-783K16.5	2
AC074212.5	2	RP11-98D18.3	1	RP11-876N24.5	1
AC096579.7	2	RP11-290L1.3	1	RP11-213H15.3	3
AL450992.2	1	AC098614.2	2	AL353597.1	1
RP11-82L18.2	2	RP5-997D24.3	1		

Table S2: Th17 cell differentiation genes classification according to their pathway involvement

Signaling pathway involvements	**Coding genes**
Interleukin receptors	*TGFBR2, IL-23R, IL12RB1, IL6R, gp130, IL21R, IL1R1, IL1RAP, IL4R, IL12RB1, IL12RB2, IFNAR1, IFNGR2, IL27RA (WSX-1), IL2RA, IL2RB, IL2RG*
Chemokine receptors	*CCR2, CCR4, CCR5, CCR6, CCR7, CXCR3, CXCR6, ACKR2*
Activator transcription factors	*RORC, RORA, STAT3, SMAD2, SMAD3, SMAD4, IRF4, BATF, NFKBIZ, RUNX1, NFKB1, NFATC2, RELA, REL, HIF1A, IKZF3, AHR, NR4A1, TCF3, EP300, CHUK, CREM, PPARA, SOX5, PRDM1*
Inhibitory transcription factors	*FOXP3, TBX21, ETS1, GATA3, RARA, RARB, RARG, RXRA, PPARG, PPARD, NR1H3, NR1H2, VDR, IRF8, NR2F6, FOSL2, MAF, GFI1, SREBF1, KLF4, Tcf7, STAT1, STAT4, STAT6, STAT5A, STAT5B*
Inhibitory factors	*SOCS3, PIAS3, FOXO1, FOXO3, EOMES, TSC1, TSC2, AKT1S1, DEF6, SIGIRR, EGR2, DUSP2*
Activator factors	*HIF1A, ROCK2, SOCS1, SOCS2, AKT1, PDK1, RHEB, RPS6KB1, RPS6KB2, TRAF6, SGK1, IRAK1, RELA, CSNK2A1*
Th17 cell cytokine secretion profile	*IL17A, IL17F, IL22, IL26, IL21, IL6, IL9, IL10, CCL20, CCR9, TNF, IFNG, CSF2*

Table S3: Array expressed coding genes in AIDs

Disease	mRNA expression profile
IBD	*SERPINB2, TMEM158, AQP9, SNRNP70, HCAR3, IL1R1, CYP1B1, ABLIM3, CYLD, CXCL1, THBS1, MARK2, PHLDA1, SDC2, NPRL2, IL1R2, RUFY3, MYL9, XCL2///XCL1, CTTN, PF4V1, MYCBP2, ITGA2B, , KCNJ15, EWSR1, FOSL1, , RBBP6, FOSB, GK, ILF3, PTGS2, CXCL2, CAPN3, KLF6, TNPO3, , FCAR*, CLIC3*, THBD, ALAS2*, TMOD1, CXCL3, CCL2*, SLC6A8, HBQ1, CXCL8*, EIF5B, EPB42*, DUSP6, DDX3Y, DKC1, TREM1, SAT1, PLAUR, CXCL5, HIST1H3F, EGR3, S100A11, NRGN, PRKAR2B, BEX3, TTC3P1, KDM2A, ADGRE2, CCNL2, MFAP3L, KRI1, MYLIP, XK, ADGRG3, SAFB*, CELF1*, CELF2*, PF4, ZAP70, SUGP2, CCR1, GNG11, FPR1, ZFP36L2, MLH3, EGR2, SRSF10, SNRNP35, HMGXB4, GP1BB, FAXDC2, EPB41L3, MMP9*, KLRF1*, HIST1H2AH, VNN3, TGM2, IL1RN*, CD160*, CLU, SLC38A1, MPL, DDX18, SMOX, MRPL35, EGR1*, GZMK, TMEM259, TOP3B, FAM110B, CA2, KIF5B, HSP90AA1, FHL2, ACSBG1, THUMPD1, ZNF37BP*, FPR2*, FCF1, DDX39B*, AKR1C3*, PRRC2C*, UBXN7, SLC25A37*, ITGB3*, HIST1H2BH, CSNK2A1, EREG*, EIF5*, BRD3, ZMYND8, TTC38, CTDSPL, ZCCHC24, CRY2, GMPR, ANXA3*, NSUN5P1, ZNF12, ZNF428, ALPL, SART3, NSUN5P2, ZBTB20*, MED13L, DDX11, ZNF91, CD6, POGLUT1, UBE3A, ZNF551, KMT2A*, FFAR2*, TNFRSF25, GPRC5A, HIST1H2BO, ELMO2, GZMA, TFPI, ANKHD1, SNCA*, MPHOSPH9, SEC31B, PCTP, UBE4B*, CACNA2D3, HNRNPU, S100P*, TCF4*, CABP5, EZR, DLG5, SETD5, CCL7, TXNIP, KLRC2*, HSPH1, TNFRSF10C, PLEKHA1, CTSL, AHSP*, CXCR1, RPS6KB1, HNRNPH1, EMC1, SLC4A1*, NKTR, PI3, TRA2A, CYP4F3, TTF1, RNF144A, GUSBP9, GHRHR, CHMP6, ABCC3, AKAP13, PBXIP1, SMARCA4, NCR3, MME, TNS1, RBM10, CA1*, ZER1, LSM4, HERC4, IGHA2, TRMT1, HIST1H2BJ, SELENBP1*, CXCR2, ORM1*, DDX24, KIR2DS4, GTF3C1, ADRA1A, ANKZF1, PROSC, ARID4B, RNF24, DLX5, EMP1*, KIR2DS2, CAV2, VNN1, CH25H, MGAM, PCYOX1, PAK1IP1, HEY1, NMT1, CXorf57, MIA, ADAM8, MIS18BP1, TPM2, FKBP8, CFHR1, SLC6A6, MYOM2*, STEAP4, SGK3, NFIB, HS3ST1*, USP9Y, KDM5D, CHI3L1**
MS	*NEAT1, HINT3, CPA3, STT3A, MS4A3, STAT2, LTF*, HBA2///HBA1, ADAM9, HBB, SERPINB9, HSPA1B///HSPA1A, SNORD10, ALYREF, FBXO16///ZNF395, C21orf33, SLC25A37*, SNRNP40, G0S2*, MALAT1, CLEC7A, MDM4, FGD4, ARF6, TOMM22, POLK, DDX3X, MAT2A, TCN1*, ARPC4, PER1, STRBP, PLPP5, PRKAR1A, KCNE3, LILRA5, APLP2, CASP2, ACTB, HBM*, HBG2///HBG1, GATA2, FCAR*, HBD*, SLC8A1, GNAS, HIBADH, CD22, AZIN1, CLC*, SNX20, SLC4A1*, EIF2S3, MOB3A, CD200, FCRL1, SAMSN1, C1orf174, STAP1, HIPK3, SNORA28///EIF5*, CXCL8*, FAM129C, CD24*, IGHD, ICAM1, FAM30A, SELENBP1*, ALAS2*, BOD1L1, GM2A, TEX10, ATP6V1G2-DDX39B*, ODF3B, KLHL14, HLA-DOB, MS4A6A, TCL1A, VPREB3, IGHM, LAMP1, STRADB, RBM25, EBF1, EIF5A, FCRL2, HS3ST1*, NFKBIZ, ANKRD11, CA1*, NR4A2*, PTPRK, P2RX5, BANK1, KLF13, SMCHD1, DDX17, RSBN1L, STRAP., THRAP3, ATRX, TBL1XR1, FCRLA, PPP6R3, CEACAM8*, AHSP*, KIAA1033, CNTRL, AFF3, OSBPL10., DEFA1B*, QSER1, EGR1*, SNCA*, PRF1*, PTP4A1, SRRM2, UBA6, SCN3A, EPB42*, F5, SRGN, CD72, SF1, MS4A1, RNF213, RIF1, RIM58, CD79A, PCDH9, SYNE2, , TBL1X, BLK, FCRL5, , PAX5, NAMPT, CD19, LYZ, ASMTL-AS1, OSM, 2-Sep, CALR, FOXP1, 7-Sep, EPG5, GGNBP2, FAM126B, GPR155, CLINT1, ZBTB20*, RAPGEF6, KMT2A*, CHI3L1*, LONRF1, BCL11A, TGIF1, CCR3, RAB30, HDC*, ESF1, CAMP*, WHSC1L1, CELF1*, MLLT10, ZNF567, PNISR, , SWAP70, LUC7L3, RUSC1-AS1, SF3B6, KAT6A, IL7, CEP295, FBRSL1, GGA3, HNRNPA1, SGO2, PRRC2C*, KDM4B, USP9X, BRD7, TCF4*, ARG1*, NIPBL, SMC3, TSPAN13, RBM41, RASGRP3, SNORA21, ASH1L, B2M, MPHOSPH8, NPAT, PAWR, YTHDC1, CD3G, CCDC186, TNFRSF10A, CD69, PCBP2, SFXN1, TRAK2, NT5E, TMEM5, CSPP1, SCAF11, RORA, KRAS, PPP4R3B, C5orf24, ANKRD12, PPIG, CDCA7L, PLEKHA2, MYNN, AKAP12, EBLN3P, PALM2-AKAP2///AKAP2, ARHGEF7, RBM39, TOP1, ZFP36L1, MIRLET7DHG, NAA15, CR2, SKI, BACE2, MMP8*, TARDBP, GTF2A2, BTG1, SDCCAG3, YME1L1, GALNT1, EB1, CEP290, ABLIM1, SPPL2B, UFL1, SGSM2, ZNF37BP*, RNF103, CEP95, NFATC2IP, NEK1, BLNK, VPS13B, LUZP1, CHD9, CD79B, NCOA3, RASEF, TMCC1, ADAM28, GPATCH8, CYCS, STAG3, SPEN, PPP1R12A, SECISBP2L, FCER2, TCP11L2, AREG*, TSPAN5, KLHL6, RALGPS2, AP3D1, SSBP1, FMNL2, LOC102724611, PCNP, ASAP1, ATG16L2, LMO7, REL, KIAA0368, C19orf43, PHC2, CNTNAP2, SAMD9L, MEX3C, FLJ10038, PKIG, HEMGN, POU2AF1, CLIP1, SYTL3, KRT1, HIVEP3, ARHGAP18, LYST, IGHV3-23, NDUFS1, ZFAND5, SESN3, DEFA4*, HBP1, GYPA, ATAD2B, RPN1, COPG1, GLUD1, SLC16A1, PKN2, CAPZA2, DNAJC14, NONO, VDAC1, GLUD2, IDH3A, SAFB*, RBBP4, NDRG3, TP53, CYBB, ATF2, MPP7, G3BP1, PRKDC, CBFB, TMOD3, RTN3, DUSP3, LIX1L, SYNRG, , EXOSC6, DEDD, C5orf22, IFNGR1, PRIM2B///PRIM2, CRKL, MBNL1, YWHAZ, CDV3, CTSZ, CPM, STYX, GNS, ALKBH5, QKI,*

	MRPS12, CRTAP, NFYC, SPTLC2, CORO1C, MTMR1, STX6, ZFX, SERTAD3, ST8SIA4, NADK, APH1A, ADAM17, MFAP3, WTH3DI///RAB6A, UBE2M, SS18, PFN1, ACTBP9, FPR2, UBE4B*, LRRC41, CELF2*, MAP3K2, YKT6, CDS2, WDFY2, FLI1, TSPAN14, TAPBP, SETSIP///SETP4///SET, FEM1C, LRRC25, RAB8B, LRRD1///CYP51A1, GSN, TSPAN4, TIRAP, FBN2, SORT1, MOCS3, FAM198B, IL1RN*, DCBLD2, C1orf228, NUTF2P4///NUTF2, PDGFC, YIPF4, , CEBPZOS, , ST6GAL1, CALU, HOMER3, FKBP5, MAX, NAIP, FAM49B, NUDT4, SMAD4, PLA2G4A, TMED2, DUSP10, SOWAHC, SIAH1, CHP1, ANKRD50, TAS2R45///TAS2R43, ANKRD10-IT1, UGGT1, CD1E, RBM14, CDKAL1, GALC, ODF2, ANKRD42, ARGLU1, KCNJ2, RHOB, , NRNPH1, MGEA5, TAF9B, CBX5, BMS1P5, CNOT6L, FOSL2, KANSL1, LPP, TYMP, CYBRD1, CDC42SE1, IL23A, IFI6*, ITGB3*, YWHAE, FPR3, CLIC3*, CD9, AMFR*
SLE	*FEZ1, RNASE2*, NCALD, GNLY, IFI27*, KLRF1*, PTGDR, ECRP, PRSS23, SYTL2, HDC8, SH2D1B, FCRL6, KLRB1, KLRG1, AKR1C3*, AUTS2, PPP2R2B, S1PR5, FGFBP2, FCER1A, KIR3DL1, KLRC3, HOPX, TCN2, OTOF, KIR2DL4, EOMES, PRF1*, KLRD1, IL7R, TGFBR3, IL18RAP, IFI44*, MATK, USP18*, CD160*, IL2RB*, IFI44L*, PLEKHF1, MCEMP1, RNASE1, EPSTI1*, PTGDS, ADGRG1, CLIC3*, ACSL1, HIST1H4H, KLRC1, IFITM3, GZMB, OAS1*, KLRC2*, MX1*, MMP9*, OLFM4, IFI6*, ADM, HP, OAS3*, HERC5*, CEACAM8*, RNASE3, RSAD2*, DYSF, CCL4L1, KIR2DL1, CEACAM1, ARG1*, CD24*, ELANE, ORM1*, IFIT1*, MPO, DEFA4*, CEACAM6, LCN2, DEFA1B*, PGLYRP1*, MMP8*, CLC*, CAMP*, S100P*, DEFA3, CTSG, ANXA3*, TACSTD2, DEFA1, BPI, GRN, AZU1, OLR1, LTF*, HBD*, CA1*, RETN, AHSP*, HBM*, TCN1*, IFIT1B, MYOM2*, ALAS2**
RA	*RNASE2*, S100A8, S100A9, TXN, ORM1*, IL2RB*, NDUFB3, CAMP*, LY96, ARG1*, PGLYRP1*, TMA7, COX7C, S100P*, MMP9*, PFDN5, RPL31, RPL39, COMMD6, RPS24, RPL26*
SS	*RSAD2*, EPSTI1*, IFI44L*, MX1*, IFIT1*, OAS2, HERC5*, IFI6*, IFIT3, OASL, OAS3*, MX2, SIGLEC1, PARP9, OAS1*, SPATS2L, EIF2AK2, USP18*, IFIT2, , IFI35, CMPK2, POBEC3A, IFI44*, LY6E, SERPING1, AREG*, IL1B, ANKRD22, FCGR1A, NR4A2*, IL8, TNFAIP6, CXCL9, HBEGF, MSR1, G0S2*, NOG, HIST1H3C, IGLV6-57, IFI27*, DDX60, LGALS3BP, LAMP3, PLSCR1, C2, HERC6, FFAR2*, CXCL11, CXCL10, EREG*, CCL2*, RGS1, MOP-1, SOCS3, NFIL3,*

Table S4: SNP associated with each autoimmune disease (AID)

Disease	**SNP**
IBD	Rs7547569, rs11209026, rs11581607, rs11742570, rs6880778, rs10748781, rs113653754, rs10781499, rs4409764, rs4077515, rs10761659, rs2188962, rs9836291, rs11236797, rs3024493*, rs56167332, rs2836883, rs2836878, rs75900472, rs3197999, rs10758669, rs35730213, rs4795397, rs56399423, rs6871626, rs17622378, rs3024505*, rs12994997, rs12946510, rs2066844, rs1801274*, rs2143178, rs11741861, rs10800309, rs7608910, rs6426833, rs2155219, rs7848647, rs6062496, rs2413583, rs7554511, rs6556412, rs4246905*, rs1505992, rs7134599, rs17800987, rs6927022, rs1297258, rs2823286, rs8127691, rs11564258, rs6752107, rs2847278, rs1893217*, rs12318183, rs13300483, rs3091316, rs7282490, rs9313808, rs11010067, rs34779708, rs6596, rs6062504, rs11743851, rs11614178, rs744166*, rs116855232, rs4946717, rs12942547, rs62037363, rs1388585, rs6935723, rs26528, rs6920220*, rs3749171, rs17293632, rs11554257, rs1819333, rs9889296, rs13407913, rs1420098, rs395157, rs917997, rs35164067, rs3091315, rs1250566, rs13300218, rs6568421, rs921720, rs72634258, rs17085007, rs2024092, rs11879191, rs12627970, rs1250546, rs4676410*, rs9868809, rs2179070, rs12568930, rs4845604, rs6017342, rs444210, rs55808324, rs2266959, rs11641016, rs80262450, rs529866, rs10956252, rs12720356, rs2488397, rs6545800, rs78487399, rs4380874, rs6586030, rs3764147, rs35675666, rs7097656, rs4246215, rs4768236, rs925255, rs11677953, rs2279990, rs1003342, rs148319899, rs1842076, rs1363907, rs17694108, rs6933404, rs1456896, rs4676408, rs2315008, rs4256159, rs2395022, rs1260326, rs11641184, rs941823, rs9557195, rs8005161, rs11230563, rs449454, rs2412970, rs3776414, rs12718244, rs6863411, rs1517352, rs9358372, rs6708413, rs1569723, rs3851228, rs516246, rs2328546, rs6740847, rs1734907, rs7657746, rs2266961, rs559928, rs9557207, rs12103, rs2488389, rs1292053, rs3742130, rs7746082, rs259964, rs3766606, rs78534766, rs28449958, rs4976646, rs1042058, rs2382817, rs1250550*, rs12722515, rs11229555, rs6740462, rs10495903, rs9297145, rs2153283, rs2050392, rs2297559, rs17119, rs2538470, rs17780256, rs16940202, rs12585310, rs913678, rs1049526, rs11548656, rs13001325, rs670523, rs11672983, rs4703855, rs11708026, rs6074022*, rs7495132, rs13126505, rs7240004, rs6716753, rs34920465, rs1847472,

	rs423674, rs11187157, rs7556897, rs71559680, rs907611, rs2231884, rs194749, rs2688608, rs243505, rs5743289, rs10500264, rs4836519, rs1990760*, rs2816958, rs314313, rs13333062, rs2076756, rs13204742, rs6856616, rs6142618, rs2227564, rs10896794, rs3853824, rs254560, rs6651252, rs56116661, rs7404095, rs10521318*, rs4911259, rs1182188, rs3184504*, rs111456533, rs2412973, rs8049439, rs1991866, rs561722, rs17207042, rs11681525, rs3766920, rs653178*, rs7555082, rs1535, rs915286, rs1569328, rs2593855, rs11195128, rs4743820, rs727088, rs17061048, rs2284553, rs17656349, rs7773324, rs630923*, rs4656958, rs2274351, rs2790216, rs11168249, rs7517810, rs10051722, rs2395128, rs477515, rs11612508, rs2930047, rs38904, rs34856868, rs10142466, rs4692386, rs7236492, rs79206939, rs501916, rs59043219, rs144344067, rs4256018, rs6592362, rs2651244, rs2111485*, rs12654812, rs12199775, rs72810983, rs4802307, rs7011507, rs16953946, rs11221332, rs6478109, rs7911264, rs4899554, rs2472649, rs6025, rs4664304, rs6058869, rs2945412, rs7015630, rs76527535, rs503734, rs67289879, rs149169037, , rs113010081, rs11768365, rs5763767, rs3731257, rs11734570, rs17057051, rs11064881, rs3180018, rs483905, rs10065637, rs7758080, rs13277237, rs2073505, rs3798544, rs1479918, rs564349, rs212388, , rs10486483, rs10798069, rs2187668*, rs798502, rs1811711, rs2189234, rs7165170, rs16967103, rs3116494, rs4728142*, rs1077773, rs17229285, rs4821558, rs10797432, rs11150589, rs4243971, rs7438704, rs490608, rs13204048, rs6667605, rs10061469, rs1819658, rs11583043, rs11083840, rs200349593, rs727563, rs7973572, rs6677524, rs7954567, rs732072, rs2641348, rs11054935, rs1321366, rs17771967, rs1816854, rs80244186, rs9525625, rs11788518, rs4903214, , rs138788, rs4812833
MS	rs3135388, rs3129889, rs9271366, rs11621145, rs3135338, rs2040406, rs9271640, rs7090512, rs2523393, rs6457617*, rs7200786*, rs3129871, rs1335532, rs4613763, rs3129934, rs10136766, rs669607, rs3957148, rs3828840, rs3129720, rs11810217, rs1738074, rs4648356, rs1800693, rs1077667, rs11154801, rs17066096, rs4902647, rs9260489, rs9282641, rs2546890, rs650258, rs2248359, rs3118470, rs703842, rs7595037, rs9275563, rs9657904, rs2119704, rs10201872, rs9891119, rs10492972, rs2300747, rs744166*, rs11581062, rs9272105, rs2425752, rs12466022, rs3817963, rs4939490, rs9292777, rs11129295, rs12368653, rs7522462, rs2293370, rs7238078, rs17445836, rs17824933, rs2303759, rs7923837, rs2283792, rs2019960, rs354033, rs802734, rs1250550*, rs533259, rs4410871, rs771767, rs10466829, rs13333054, rs17174870, rs874628, rs13192841, rs170934, rs2300603, rs6897932, rs140522, rs1323292, rs4285028, rs12722489, rs4961252, rs2150702, rs6718520, rs2293152, rs12212193, rs12048904, rs4308217, rs2744148, rs2104286*, rs180515, rs6074022*, rs882300, rs12025416, rs8070463, rs228614, rs6062314, rs11865121, rs6896969, rs2503875, rs4953911, rs10411936, rs2681424, rs7592330, rs1520333, rs630923*, rs9568281, rs733724, rs9283487, rs931555, rs1250542, rs806321, rs4075958, rs307896, rs2935183, rs794185, rs7191700, rs4409785*, rs756699, rs1790100, rs9596270, rs10866713, rs10936599, rs6659742, rs397020, rs17411949, rs9807334, rs290986, rs4271113, rs9320598, rs9523762, rs8049603, rs3780792, rs3745672, rs8112449, rs233100, rs7255066, rs13279485, rs7924357, rs2920001, rs1458175, rs1529316, rs1386330, rs12638253, rs1478091, rs6984045, rs8074980, rs2038256, rs281380, rs9321490, rs1062158, rs11026091, rs908821, rs1755289, rs17157903, rs2116078, rs6604026, rs3761959, rs4792814, rs11755724, rs793108*, rs17090640, rs6498169, rs1557351, rs299175, rs10259085, rs10518025, rs261902, rs12644284, rs12456021, rs6952809, rs17594362, rs386965, rs9821630, rs5978649, rs2842483, rs4149584, rs4669226, rs12513380, rs12047808, rs6941421, rs7191888, rs180358, rs10243024, rs2039485, rs4680534, rs17149161, rs7789940, rs651477, rs4704970, rs9480865, rs6917747, rs11666377, rs210428, rs13117816, rs2243123, rs1821625, rs4916321, rs10984447, rs7672826, rs1841770, rs1437898, rs1927457, rs716595, rs758944, rs7779014, rs11962089, rs17267338, rs17749211, rs1109670, rs337718, rs7253363, rs11957313, rs8007846, rs2602397
RA	rs6910071, rs9268839, rs6457620, rs2476601*, rs3763309, rs660895, rs6457617*, rs13192471, rs12194148, rs2157337, rs6679677*, rs9296015, rs1571878, rs7752903, rs615672, rs3087243, rs77331626, rs12531711*, rs7765379, rs7731626, rs2051549*, rs71508903, rs12617656, rs2233424, rs5029924*, rs653178*, rs8026898, rs11889341*, rs2233434, rs3093024, rs2301888, rs9653442, rs8032939, rs4239702, rs10821944, rs8083786, rs10790268, rs874040, rs11933540, rs909685, rs12379034, rs7748270, rs34695944, rs5987194, rs34536443, rs9269234, rs11574914, rs1858037, rs41291794, rs706778, rs1854853, rs11676922, rs2841277, rs1980422, rs953387, rs3761847, rs7574865*, rs12525220, rs2736337, rs9603612*, rs2105325, rs6920220*, rs10892279, rs2867461, rs13330176, rs13017599, rs9603616, rs9275406, rs28411352, rs1893217*, rs1893592, rs2736340*, rs6859219, rs4409785*, rs864537, rs3093023, rs2561477, rs2283790*, rs1516971, rs2451258, rs1953126, rs10488631*, rs4452313, rs10985070, rs1950897, rs11580078, rs36001488, rs4625, rs7725052, rs10822050, rs17885785, rs72743477, rs117372389, rs2066363, rs7660520, rs7100025, rs1332099, rs773125, rs73013527, rs2395148, rs9378815, rs13277113*, rs755374, rs805297, rs2298428, rs657075, rs947474, rs17466626, rs951005, rs934734, rs3781913, rs9372120, rs624988, rs2469434, rs9826828, rs10499194, rs10175798, rs793108*, rs72634030, rs3783782, rs11089637, rs12140275, rs6715284, rs11741255, rs4810485, rs3824660, rs67250450, rs9373594, rs8133843, rs227163, rs2671692, rs13142500, rs2072438, rs72632736, rs2075876,

	rs2228145, rs1689510, rs12598357, rs2833522, rs4272, rs3125734, rs231735, rs77150043, rs12601925, rs1043099, rs678347, rs10774624, rs998731, rs6732565, rs3806624, rs726288, rs4780401, rs2596565, rs11203203, rs7579944*, rs11900673, rs4246905*, rs1250563, rs1502644, rs2807264, rs12519788, rs975730, rs1876518, rs2240335, rs12529514, rs2847297, rs968567, rs1877030, rs1943199, rs2812378, rs73194058, rs2664035, rs62324212, rs11145763, rs7258015*, rs284511, rs881375, rs12901682, rs26232, rs6479800, rs4305317, rs729302*, rs11984075, rs11121380, rs12565755, rs13315591, rs73081554, rs2582532, rs602662, rs2836882, rs9860428, rs9557321, rs12863738, rs1633360, rs12413578, rs1678542, rs2294369, rs2075184, rs4869313, rs36051895, rs3890745, rs4688011, rs7940423, rs12109285, rs16977065, rs7155603, rs2220327, rs331463, rs72717009, rs4921283, rs6568431*, rs7672495, rs7042370, rs6028945, rs6479891, rs1898036, rs4942242, rs17118552, rs1406428, rs11937061, rs800586, rs12570744, rs2317230, rs6689858, rs4676410*, rs114846446, rs6593803, rs10945919, rs1020388, rs12411988, rs6138892, rs1809529, rs1543922, rs1340317, rs9571178, rs9598783, rs1340319, rs3807306, rs12232497, rs1823549, rs1178121, rs11761231, rs1957895, rs16938910, rs12131057, rs7624766, rs6448432, rs34884278, rs62131887, rs7046653, rs1980493, rs7164176, rs72991, rs11148643, rs9271348, rs757278, rs10956445, rs6956740, rs7831697, rs12517545, rs6500395, rs6026990, rs10520789, rs12652364, rs12928404, rs75908454, rs79575701, rs12719740, rs9604529, rs1914816, rs13119723, rs10988542, rs284515, rs1772408, rs4937362, rs1329568, rs16906916, rs13031237, rs1679568, rs6774280, rs1273516, rs13137105, rs2872507, rs13385025, rs2738774, rs743777, rs12046117, rs6496667, rs11051970, rs4336372, rs2104286*, rs3790022, rs4395908, rs10128264, rs11225055, rs55705316, rs11839053, rs13015080, rs114940806, rs1279094, rs864089, rs481331, rs2837960, rs854555, rs2062583, rs3783637, rs2280381, rs11045392, rs7141276, rs6427528, rs840016, rs2230926*, rs10865035, rs4750316, rs17374222, rs518167, rs7839040, rs1079467, rs8097070, rs1527934, rs78507369, rs12445022, rs9299346, rs6138150, rs11870477, rs508970, rs10113213, rs61996546, rs112165031, rs6853094, rs73401585, rs9595973, rs9633402, rs62438583, rs13393173, rs437943, rs42041, rs10876993, rs7404928, rs1539909, rs3794271, rs45475795, rs11113818, rs2961663, rs41005, rs62359376, rs1501138, rs2741200, rs12422918, rs983332, rs1600249, rs66861122, rs6506122, rs7712113, rs1885747, rs111580313, rs2002842, rs12831974, rs885814, rs3184504*, rs3218251, rs60624478, rs7800668, rs1498103, rs6506569, rs2802369, rs255758, rs6448119, rs1624005, rs960902, rs923880, rs3816587, rs17679567, rs10084630, rs16973500
SS	rs117026326, rs9271573, rs9271588, rs4282438, rs10168266., rs3823536, rs11889341*, rs5029939*, rs7574865*, rs17074492, rs7341475, rs9277554, rs11048434, rs1957173, rs7999279, rs9938751, rs16837677, rs7192380, rs181851, rs79407237, rs4842091, rs10474500
SLE	rs1270942, rs11889341*, rs10488631*, rs1150757, rs17849501, rs34572943, rs35000415, rs35472514, rs3131379, rs3757387, rs1143679, rs10036748, rs7574865*, rs2476601*, rs2205960, rs6932056, rs12539741, rs13239597, rs1150754, rs2187668*, rs2431697, rs6590330, rs7812879, rs6889239, rs9270984, rs12531711*, rs2732549, rs4728142*, rs9888739, rs4917014, rs7444, rs2736332, rs2051549*, rs558702, rs3794060, rs2736340*, rs5029924*, rs12612769, rs704840, rs58721818, rs12537284, rs10912578, rs13332649, rs2431098, rs2230926*, rs11644034, rs1887428, rs10845606, rs10028805, rs6705628, rs9652601, rs6736175, rs4639966, rs131654, rs11185602, rs17321999, rs6804441, rs7726414, rs9275572, rs13385731, rs6679677*, rs1734787, rs6762714, rs2289583, rs11073328, rs9311676, rs6568431*, rs4852324, rs1059702, rs73135369, rs3768792, rs1059312, rs11085727, rs10911628, rs2254546, rs9603612*, rs387619, rs3747093, rs76413021, rs2304256, rs58688157, rs9273076, rs9271100, rs3734266, rs1801274*, rs6671847, rs74290525, rs139110493, rs2301271, rs34889541, rs5029939*, rs17603856, rs113478424, rs597325, rs548234, rs34330, rs10753074, rs1913517, rs1128334, rs7097397, rs4622329, rs11697848, rs2111485*, rs2297550, rs1385374, rs2283790*, rs7708392, rs11574637, rs7601754, rs2176082, rs4948496, rs77583790, rs12736195, rs11235667, rs3821236, rs2736345, rs849142, rs1061502, rs13277113*, rs2275247, rs11860650, rs7941765, rs268134, rs9462027, rs10048743, rs4963128, rs12711490, rs10516487, rs5986948, rs4388254, rs887369, rs4902562, rs597808, rs12802200, rs729302*, rs9782955, rs7579944*, rs10499197, rs564799, rs2286672, rs3129716, rs10774625, rs3024505*, rs2663052, rs1150753, rs143123127, rs494003, rs6445975, rs340630, rs10946940, rs877819, rs2941509, rs11059919, rs4916342, rs7329174, rs8023715, rs820077, rs4917385, rs2618476, rs1635852, rs1167796, rs960709, rs12822507, rs7200786*, rs1170426, rs7197475, rs7172677, rs7897633, rs7258015*, rs12531540, rs13306575, rs6697139, rs1990760*, rs2222631, rs3024493*, rs2267828, rs2532871, rs9267531, rs1267499, rs7090925, rs10798269, rs4684256, rs1049564, rs4921283, rs9398235, rs1878186, rs10498070, rs1133906, rs10466455, rs2785197, rs1028488, rs4660116, rs10995092, rs7186852, rs8012283, rs2647012, rs1535001, rs1874791, rs7582694, rs6914831, rs11185603, rs643955, rs3827644, rs1364989, rs274068, rs12599402, rs525410, rs912784, rs12753920, rs11057864, rs11655550, rs7773456, rs11231824, rs1048257, rs7692514, rs1108131, rs4956211, rs7834765, rs601162, rs2303745, rs4850410, rs10032909, rs2928402, rs958476, rs11150610, rs5754217, rs918959, rs956237, rs4544377, rs6946131, rs6084875, rs752010, rs6538678, rs9267972, rs4901847, rs967616, rs6850606, rs11908000, rs61732491, rs181502228, rs8009420, rs6696619, rs12589674, rs710987, rs11101442, rs11243676, rs3130320, rs10857712, rs10857712, rs10041935, rs2252996,

	rs7411387, rs3934007, rs959260, rs79404002, rs190029011, rs7892586, rs7098187, rs979233, rs6695567, rs4963128, rs1355223, rs12993006, rs742108, rs2288012, rs10521318*, rs1534618, rs2669010, rs12565776, rs2786111, rs2478118, rs2236178, rs16860537, rs4522865, rs1429411, rs9402743, rs2797780, rs8105429, rs427221, rs10992211, rs17083844, rs10911390, rs10276619, rs10954650, rs12141391, rs10737562, rs7927370, rs2764208, rs9303277, rs11717455, rs12917712, rs9937837, rs3862260, rs4574684, rs330048, rs17807624, rs7031325, rs931127, rs10142203, rs4149228, rs2313132, rs12949531, rs1463525, rs6049839, rs2396545, rs1478897, rs10254284, rs4641121, rs17301013, rs17039212, rs9263871, rs12529935

Table S5: *RORC* and lncRNAs correlation

	RORC	
	Pearson Correlation	Sig. (2-tailed)
AC009948.5.007	0.139	0.265
RP11.290L1.3	0.153	0.219
AL928768.3	0.238	0.051
RP11.98D18.3	0.106	0.404
IL21R.AS1	0.028	0.824
AC007182.6	0.138	0.267
AL450992.2	0.306	0.010
RP11.126K1.6	0.239	0.051

File S1: Python's scripts

```
gene=open("C:\\Users\\Aref\\Desktop\\newgenes.txt","r")
lnc=open("C:\\Users\\Aref\\Desktop\\lnc.txt","r")
distance=50000
res=open("C:\\Users\\Aref\\Desktop\\result.txt","w")
for g in range(1,117):
    gline=gene.readline()
    import string
    gcht1=str.find(gline,"\t") # first TAB character
    gcrn=int(gline[:gcht1]) #choromosomal number
    gcht2=str.find(gline,"\t",gcht1+1) # second TAB character
    gfn=int(gline[gcht1+1:gcht2])#first nucleotide in gline
    gln=int(gline[gcht2+1:])#last nucleotide in gline
    lnc=open("C:\\Users\\Aref\\Desktop\\lnc.txt","r")
    for l in range(1,27):
        lline=lnc.readline()
        import string
        lcht1=str.find(lline,"\t") # first TAB character
        lcrn=int(lline[:lcht1]) #choromosomal number
        lcht2=str.find(lline,"\t",lcht1+1) # second TAB character
        lfn=int(lline[lcht1+1:lcht2])#first nucleotide in lline
        lln=int(lline[lcht2+1:])#last nucleotide in lline
        if gcrn==lcrn:
            if abs(gfn-lln)<=distance or abs(lfn-gln)<=distance:
                res.write(("%-2d\t%-2d\n")%(g,l))
            if gfn>lfn and gfn<lln:
                res.write(("%-2d\t%-2d\n")%(g,l))
            if gln>lfn and gln<lln:
                res.write(("%-2d\t%-2d\n")%(g,l))
    res.write("\n")
res.close()
```

```
gene.close()

lnc.close()
```

File S2: Python's script

```
snp=open("C:\\Users\\Aref\\Desktop\\SLE SNP.txt","r")
lnc=open("C:\\Users\\Aref\\Desktop\\lnc.txt","r")
distance=5000
SNPres=open("C:\\Users\\Aref\\Desktop\\SNPresult.txt","w")
for s in range(1,313):
    sline=snp.readline()
    import string
    scht1=str.find(sline,"\t") # first TAB character
    scrn=int(sline[:scht1]) #choromosomal number
    sn=int(sline[scht1+1:])#SNP Nuclotide Position
    lnc=open("C:\\Users\\Aref\\Desktop\\lnc.txt","r")
    for l in range(1,27):
        lline=lnc.readline()
        import string
        lcht1=str.find(lline,"\t") # first TAB character
        lcrn=int(lline[:lcht1]) #choromosomal number
        lcht2=str.find(lline,"\t",lcht1+1) # second TAB character
        lfn=int(lline[lcht1+1:lcht2])#first nucleotide in lline
        lln=int(lline[lcht2+1:])#last nucleotide in lline
        if scrn==lcrn:
            if abs(sn-lln)<=distance or abs(sn-lfn)<=distance:
                SNPres.write(("%-2d\t%-2d\n")%(s,l))
            if sn>lfn and sn<lln:
                SNPres.write(("%-2d\t%-2d\n")%(s,l))
    SNPres.write("\n")
SNPres.close()
snp.close()
lnc.close()
```