**Supplementary table 1** 371 and 203 characteristic genes related to the disease phenotype of ITP

| Group | Up-regulated genes | Down-regulated genes |
|-------|--------------------|----------------------|
| Chronic ITP vs newly diagnosed ITP | DKK3, NKTR, CAMTA1, SEMA5A, TSH22, PER3, GNAS, DLG5-AS1, GPR180, PHTF2, SLCA44, FBXO38, ERKI, KCNJ5, UQCC1, AK2, EPB41L5, DTWD1, KTMT1, TRPC1, LRCH3, TUBGCP5, ZNF80, WDFY2, PTGDS, RRPBI, ANKRD10-IT1, AFDN, ACVR1C, VEPHI, ADAM28, LPP, SNX24, ABCA5, TMEM161B-ASI, AT4, PSMMA-ASI, DCAF7, TTN-ASI, CEP41, CELF4, KIF16B, BMPRIA, ZNF441, POLR2J4, LINS1, CASK, NASET2, TAF15, RAD54L2, PCGF5, AKA9, SBF2, MED28, EML4, CFLAR, WDR78, INPP4A, ZC3H12B, IL4, CD47, EFCAB13, DGKE, SLCA213, MIA4, ITGB1, PHLD52, DNAJC6, BACE1, ETN6, DTX3, DIAP2, INT510, BMS32, ESR1, KCNJ5, UQCC1, AKT2, EPB41L5, DTWD1, KMT2A, TRPC1, LRCH3, TUBGCP5, ZNF80, WDFY2, PTGDS, RRBP1, ANKRD10, MCM2, ITSNI, SLCA30A, MSR83, LMS12, KHDURSI, MRFY-A5I, TPN21, LINCO1360, FAM13C, PDE10A, ZNF496, SLCA16, ACPP, MKI67, CASR, ENTPD1, JUN, LARS2, COL9A1, INPP5D, CN2, BCT1, H-5, COLI1A1, LRATDI, PSHI, LOC440570, CYP3A43, GRAP1, BMT, DSC2, H52ST1, SUFU, B4GALNT3, TDO2, PFN4, TMEM176B, PRKACG, HS6ST2, SLCA25A9, KCNC3, LOC101926960, ZNF704, SERP2, NALCN, ELOVL3, LINOA1838, TRIM10, ADGR7G, TRIOBP, LOC101927884, CASC5, CYBRD1, PXDN, SPSB1, FAM83A, GABRA2, MECom, GRIN2B, MAP, RPS6K6A6, TCT23, ZNF771, PIEZO2, HOTS, FCAR, HOXB8, PTPRG, GP3C, GAREMI, PRDM8, TRIO, MDGAI, ATRNL1, CEPI8, SPTBIN1, LOC101927359, MEIS2, VDR, GRN1, SCARF2, PTAPA3, GLR2, HDGFL3, MEC3, KRR1, PROX, CD86, TEX1, LINCO0354, AT1, VNN3, MS4A7, MIR7-3HG, LP1, PLUR, DOCK9, SNCA, TSH23, MAIG1, CEBA, PTGER3, STXBS1, NPY1R | CHST2, GSEI, CD93, ZFP1, ADA, AOPEAR, MAATS1, LMOD3, GAS7, DABG1, PLD6, NRG1, TFPI, CYP19A1, LINCO0486, SLCA12, RAB38, PATZ1, AXDND1, LOC339803, ZNF395, LOC100505501, LOC100520, APBB21P, HGH1, LDB2, PANKI, CALDI1, FGFI14, NGLN4X, PPRR18, NEU3, ZCCHC14, LOC100507388, LMO3, IGL1V4-4, PCGF3, ADRA1A, TIMELESS, MCM2, ITSN1, SLCA30A, MSR83, LMS12, KHDURSI, MRFY-A5I, TPN21, LINCO1360, FAM13C, PDE10A, ZNF496, SLCA16, ACPP, MKI67, CASR, ENTPD1, JUN, LARS2, COL9A1, INPP5D, CN2, BCT1, H-5, COLI1A1, LRATDI, PSHI, LOC440570, CYP3A43, GRAP1, BMT, DSC2, H52ST1, SUFU, B4GALNT3, TDO2, PFN4, TMEM176B, PRKACG, HS6ST2, SLCA25A9, KCNC3, LOC101926960, ZNF704, SERP2, NALCN, ELOVL3, LINOA1838, TRIM10, ADGR7G, TRIOBP, LOC101927884, CASC5, CYBRD1, PXDN, SPSB1, FAM83A, GABRA2, MECom, GRIN2B, MAP, RPS6K6A6, TCT23, ZNF771, PIEZO2, HOTS, FCAR, HOXB8, PTPRG, GP3C, GAREMI, PRDM8, TRIO, MDGAI, ATRNL1, CEPI8, SPTBIN1, LOC101927359, MEIS2, VDR, GRN1, SCARF2, PTAPA3, GLR2, HDGFL3, MEC3, KRR1, PROX, CD86, TEX1, LINCO0354, AT1, VNN3, MS4A7, MIR7-3HG, LP1, PLUR, DOCK9, SNCA, TSH23, MAIG1, CEBA, PTGER3, STXBS1, NPY1R |
| Remission ITP vs newly diagnosed ITP | RORA, YTHDC2, PTPN4, MGAT4A, PRKD3, RBM25, NKTR, KPN5A, MYSMF1, ZNF451, MLK1, FMD5C3, EMB, EEA1, RFX3, UBR3, CPSF6, CDC7, ATXN7, RB1CC1, BCLAF1, CHDI, ZNF507, RASA2, UBXN7, NF1, U2SURP, MBNL2, BMP2, TPR, TTC14, LINCO3042, SMC3, SNRK, GCC2, PKN2, ATM, ICE1, DPP8, ZNF48, CDC42EP3, SLK, ARHGA12, CCSR2, ZNF33A, NR3C1, ZBTB38, SACS, TM9SF3, RBM26, CCNL1, WDR26, JMY, ERG2C1, RNF25, KTAT2, RB1C1, IQGAP2, EIF3A, BBX, AGI, FAM214A, RBM27, MGA, ANKRD28, RC3H1, PDS55B, PEPPR3, ZBTB44, ZEB1, INO80D, RESFI, HLF, ZBTB41, ANKRD12, SLCA30A, ZDHHC17, ZNF29, WASH4, AXSE2, FRYL, DEK, PYROD1, CHIC1, DENND4C, ROCK2, DENND1B, PP1G, USO1, ARFGF2, ARFGFE1, MALAT1, RBANP2, LPP, ZNF148, ZMYM4, SUZ2, UBXN4, PCF11, ATP11C, PAG1, ZNF252P, DOCK11, ROCK1, PP1PS52, MBNL1, R060, NBN, SMARCA1, PANK3, NIN, SMCR, ABCIN1, KIF5B, NEK7, N4BP2, ELK4, PPRR12A, ERB, NIPBL, TNRC6B, FAM199X, OSBP8, PJA2, RAPGFE6, BTAF1, UFL1, OPA1, PTGSE2, TASOR, GABPA | CD7, GIMAP1, ARF3, BRI3, UBE3B, SLCA25A1, PDKX, UBP2, CLT8, ZMYM3, BEX3, MARCHF2, FKBPH, SMARCA4, CEBPB, RPRP-AS1, CALHM6 |
CAB39, NPAT, OBI1, PDZD8, ZNF770, ERAP2, MPHOSPH10, PCGF5, ABRAXAS2, PUM2, PCMTD1, IQGAP1, PPPP1CB, APPL1, CEBPZ, PARP8, CEP78, SF3B1, SFLN5, KPNA3, TUT7, PDS5A, SP3, PHIP, STK38L, TBC1D4, USP32P2, SYNE2, CLEC2B, REST, ZNF354C, MTDH, ZNF654, OGFRL1, LPGAT1, SLU7, NUSI, KMT5B, C21orf91, NRIP1, SH3GLB1, GNPTAB, HIVEP2, HSPA13, SMC4, L75, MYBL1, MOB1B, CDK6, ZNF600, SKIL, MTPN, ACTR2, ARMT1, TGFBR3

**Supplementary table 2** Hub genes identified in chronic and remission ITP group

| Group          | Up-regulated genes            | Down-regulated genes        |
|----------------|-------------------------------|-----------------------------|
| Chronic ITP    | ESR1, ITGB1, NF1, NR3C1, LMNA | JUN, PRKACG, GRIN2B         |
| Remission ITP  | CHD1, U2SURP, TPR, SMC3, ATM, KAT2B, RANBP2, NIPBL, BTA1, SF3B1, SMC4 | SMARCA4                     |