

Supplementary Data 1: Mouse IFN γ + T_{PHEX} gene signature

gene
1 Rgs1
2 Camk2n1
3 Podnl1
4 Maf
5 Gzmb
6 Ccl5
7 Gzmk
8 Coch
9 Ier3
10 Malat1
11 Id2
12 Havcr2
13 S100a6
14 Trbc2
15 Glrx
16 Slamf1
17 S100a4
18 Prf1
19 Nkg7
20 Ctsd
21 Ccl4
22 H2-K1
23 AW112010
24 Cd8b1
25 Cd3g
26 Vmp1
27 H2-D1
28 Psmb8
29 Cd28
30 S100a11
31 Ccr5
32 Csf1
33 Ccl3
34 Btg1
35 Arl6ip1
36 Cyba
37 Itga4
38 Dusp2
39 Tox
40 Pdc1
41 Lat
42 Chst2
43 2310031A07Rik
44 Lax1
45 H3f3b

46 Cish
47 Ccnd2
48 Entpd1
49 Laptm5
50 Eif1
51 Fasl
52 Lpin1
53 Ifng
54 H2-T23
55 Il10ra
56 Sh2d1a
57 Gimap1
58 Metrnl
59 Ddx5
60 Mbnl1
61 Gimap6
62 Bcl11b
63 Ctla2a
64 Jund
65 Ctla4
66 Hist1h1c
67 Gimap3
68 Gm33782
69 Sdcbp2
70 Arap2
71 Gng5
72 Gadd45b
73 Irf2
74 Serpina3g
75 Ndnf
76 Cd82
77 Gimap7
78 Kmt2a
79 Bhlhe40
80 Srsf5
81 Asb2
82 Pfdn5
83 L3mbtl3
84 Cst7
85 Plk3
86 Kremen2
87 AC163354.1
88 Irf1
89 Dusp1
90 Igkc
91 Ubl5
92 Runx3

93 Susd3
94 Rnaseh2c
95 Mir155hg
96 Fyn
97 Hsp90b1
98 Hspa5
99 Tap2
100 Ildr1
101 Serpina3f
102 Rbm39
103 Rhoh
104 H2-Q4
105 Nktr
106 Batf
107 Prdm1
108 AC149090.1
109 Fgl2
110 Vsir
111 Sec11c
112 Cd2
113 Casp1
114 Hip1
115 Akna
116 Foxn3
117 Repl1
118 Wdr95
119 Eomes
120 Nedd9
121 Rhoq
122 Atxn1
123 Cd27
124 Ldhd
125 Itgb2
126 Ptger4
127 Sytl2
128 Srrm2
129 Stk17b
130 H2afj
131 Dnaja1
132 Nfatc1
133 Adgrg1
134 Selenok
135 Ppp1r18
136 Pstpip1
137 Mxd4
138 Pnrc1
139 1810037117Rik

140 Lncpint
141 Atp6v0e
142 Ptpn13
143 Npc2
144 Zbtb38
145 2010111101Rik
146 Tmbim6
147 Fbxl12
148 Mettl7a1
149 Adam19
150 Zfp652
151 Spcs2
152 Clk1
153 Fyb
154 Cd200r1
155 Pttg1
156 Rgs16
157 Sema4a
158 4-Sep
159 Med28
160 Cdkn1b
161 Ubc
162 Tmem140
163 Syt11
164 Itgal
165 Aplp1
166 Tnfaip3
167 Txn1
168 Glmn
169 Son
170 Gpx4
171 Phf1
172 Lsp1
173 Lcp2
174 Pla2g16
175 Arhgap10
176 Gabarap
177 Rab11fip4
178 Slc16a6
179 Gm12216
180 Abi3
181 Ikzf1
182 Ormdl3
183 Serpinb6a
184 Heca
185 Vamp8
186 Ccdc82

187 Leprotl1
188 Sash3
189 Avl9
190 Ptges3
191 Eif4a2
192 Cdc42ep3
193 Adrb1
194 Baiap3
195 Med13l
196 Cd247
197 Zcchc18
198 Cblb
199 Cox17
200 Nr3c1
201 Nsmaf
202 Zwint
203 Ndfip1
204 Ptbp3
205 Morf4l1
206 Gimap8
207 Tax1bp1
208 1110008P14Rik
209 Tmem37
210 Btbd19
211 Liltr4b
212 Icos
213 Vgll4
214 AW011738
215 Hist1h1e
216 Crbn
217 Lbh
218 Rab27a
219 Sh3glb1
220 Kmt2e
221 Sdf4
222 Trp53i11
223 Tap1
224 Cdkn2c
225 Gse1
226 Samsn1
227 Psmb10
228 Trps1
229 Btg3
230 Gpr65
231 Tgoln1
232 Hsp90aa1
233 Gtpbp2

234 Cebpb
235 Itm2c
236 1700017B05Rik
237 Map1lc3b
238 Gpr68

Supplementary Data 2: BATF-expressing human T_{EX} gene signature

- 1 VCAM1
- 2 LAYN
- 3 HMOX1
- 4 TNFRSF9
- 5 GEM
- 6 CTLA4
- 7 ENTPD1
- 8 HAVCR2
- 9 PDCD1
- 10 CD27
- 11 PMCH
- 12 CD74
- 13 HLA-DRB1
- 14 DUSP4
- 15 LAG3
- 16 SNAP47
- 17 ZBTB32
- 18 SNX9
- 19 IGLV3-1
- 20 CD82
- 21 HLA-DQA1
- 22 SEMA4A
- 23 HLA-DRA
- 24 AC133644.2
- 25 LYST
- 26 CCND2
- 27 AC017002.1
- 28 NAB1
- 29 CD70
- 30 BATF
- 31 ITM2A
- 32 HLA-DMA
- 33 TNFSF4
- 34 CDKN2A
- 35 RGS1
- 36 AC069363.1
- 37 ENC1
- 38 CXCL13
- 39 AKAP5
- 40 ICOS
- 41 FXYD2
- 42 CREM
- 43 LAIR2
- 44 TIAM1
- 45 TMEM155
- 46 SIRPG

47 RGS2
48 CDKN2B
49 DUSP16
50 NDFIP2
51 TOX
52 APOBEC3C
53 ZBED2
54 HLA-DPB1
55 FKBP1A
56 BPGM
57 TIGIT
58 COTL1
59 TTN
60 MCM5
61 CD200R1
62 ID3
63 NAMPT
64 MIR155HG
65 KCNK1
66 DNPH1
67 HLA-DPA1
68 RALA
69 SLA
70 PMAIP1
71 AD000671.6
72 HNRNPLL
73 CADM1
74 LMCD1
75 NR4A2
76 ACP5
77 PHLDA1
78 DUSP5
79 AHI1
80 KRT86
81 MAP1LC3A
82 PIM3
83 KIR2DL4
84 GFOD1
85 SEC14L1
86 SYNGR2
87 ETV1
88 GAPDH
89 LIMS1
90 ZNF331
91 ITGA2
92 BANP
93 HLA-A

94 IGFLR1
95 APOBEC3G
96 GGA2
97 NOP58
98 JMJD4
99 SLC7A5
100 GALM
101 PDGFA
102 SQSTM1
103 UBC
104 DNAJA1
105 RNF19A
106 BHLHE40
107 NKG7
108 DYNLL1
109 LMNB1
110 ZBTB1
111 GSPT1
112 EZR
113 SLC2A8
114 IGLC2
115 CD38
116 TNFSF9
117 PHLDA3
118 CHN1
119 G3BP2
120 PARK7
121 AFAP1L2
122 FABP5
123 ANXA5
124 PTMS
125 ASB2
126 HSPH1
127 NEAT1
128 PKM
129 ATP1B3
130 NFKB2
131 CSF1
132 PPM1G
133 RBPJ
134 ITGAE
135 MS4A6A
136 HSPA8
137 ABAT
138 SFPQ
139 HSP90AB1
140 UBB

141 ABHD6
142 HSPD1
143 CARHSP1
144 PON2
145 IL21R
146 FAM3C
147 CDK6
148 GLA
149 BAX
150 CTSC
151 STAT5A
152 DDX3Y
153 GNB4
154 HERPUD1
155 BRD2
156 TNFAIP3
157 TOX2
158 TNFRSF1B
159 GOLIM4
160 RELB
161 B3GNT5
162 CCDC64
163 NBL1
164 BCL3
165 RIC8A
166 HIVEP1
167 GPR137B
168 HSP90AA1
169 ADGRE5
170 DFNB31
171 PPP1R16B
172 FUT8
173 MYL6
174 SRRT
175 BCL2L11
176 MAST4
177 NFKB1
178 PHPT1
179 TRAF1
180 YPEL5
181 SUB1
182 C3orf14
183 PDE4D
184 NFE2L2
185 ZNF282
186 PLPP1
187 TRAV29DV5

188 MYL6B
189 CASP3
190 FLNB
191 CCDC141
192 DUSP10
193 RHBDD2
194 PTPN7
195 TANK
196 ITPRIP
197 TYMS
198 STAT3
199 SUMO2
200 SOD1
201 CST7
202 ATP8B4
203 VPS37B
204 HAPLN3
205 PGAM1
206 TMEM2
207 HSPE1
208 UTS2
209 SLC1A4
210 TNIP3
211 EIF1AY
212 HLA-DMB
213 GZMK
214 SURF4
215 CARS
216 CHST12
217 UBASH3B
218 KPNA2
219 FAM46C
220 SDCBP
221 PAG1
222 CALR
223 GOLM1
224 CHST11
225 TRPS1
226 IFI6
227 BTG3
228 CCRL2
229 STX11
230 SYT11
231 DUSP2
232 MCL1
233 ACSL1
234 STAM

235 BIRC3
236 RUNX3
237 MPP1
238 DNM2
239 CBLB
240 ELL2
241 SNX10
242 TRAF5
243 SLC27A2
244 METRNL
245 GTPBP8
246 BLVRA
247 MIR181A1HG
248 ABCG1
249 TET2
250 CLECL1
251 FAS
252 EZH2
253 NCL
254 ADGRG1
255 RAB11FIP1
256 SHFM1
257 NFKBIB
258 LSP1
259 OSER1
260 AIF1
261 SCAMP2
262 SRGN
263 BST2
264 PRDX3
265 COPZ1
266 CCL3
267 GK
268 CCR5
269 YARS
270 APOE
271 TIGAR
272 TNFRSF18
273 IDI1
274 CMC1
275 PDIA6
276 ARF4
277 NRBP1
278 CD2BP2
279 ATP6VOC
280 CASZ1
281 CRIM1

282 SAMSN1
283 SLC25A3
284 PTP4A1
285 HLA-DQB1
286 CXCR4
287 GALNT2
288 SH2D1A
289 MDM2
290 TRAF3
291 CRTAM
292 NR4A3
293 TPI1
294 SLA2
295 RHOA
296 MCM2
297 BBC3
298 SRGAP3
299 BAG3
300 CLDND1
301 CYLD
302 HSPA5
303 ACTN4
304 TRAT1
305 SH3KBP1
306 AFAP1
307 TMEM70
308 PLEKHG2
309 ZNF184
310 PPM1D
311 DERL3
312 DCTN6
313 DNAJB1
314 STIP1
315 AC007246.3
316 PSME2
317 IGF2R
318 ARPC1B
319 CARD16
320 ZNF79
321 BAK1
322 ARID5B
323 LRRN3
324 SQLE
325 CACYBP
326 PRF1
327 SAR1B
328 H3F3B

329 SPTAN1
330 INPP1
331 NUDT21
332 CORO1A
333 IFI27L2
334 ATP6V1B2
335 MSI2
336 ETS2
337 JMJD6
338 HINT1
339 LINC-PINT
340 ASNA1
341 AGPAT5
342 MAF
343 NAP1L4
344 CTSB
345 TRPC4AP
346 TERF2IP
347 UBE2A
348 TRIM59
349 PRDX1
350 RFTN1
351 RAC1
352 NINJ1
353 PSMD13
354 TM9SF1
355 PGK1
356 RAB27A
357 ARPP19
358 IFI16
359 TSPYL2
360 PRDM1
361 ALDH3A2
362 IRF1
363 DDIT4
364 SNRPB
365 HSPA1A
366 PSMD8
367 ATXN1
368 GNG2
369 PTTG1
370 CLIC1
371 MAP2K3
372 CCDC12
373 HSBP1
374 C3orf38
375 TBC1D2B

376 ITGB1
377 PLSCR1
378 BIK
379 PARVG
380 HSD17B10
381 ASMTL
382 SCCPDH
383 WNK1
384 FASLG
385 CCL5
386 GTF2B
387 ARF5
388 PSMB6
389 ARL8B
390 NFAT5
391 IKZF2
392 ANXA6
393 POLR1E
394 NPM1
395 NAB2
396 PELI1
397 CRIP1
398 POLR3E
399 CNIH1
400 MOB4
401 CHD1
402 SMC4
403 PSMC4
404 TAP1
405 LAT2
406 CYCS
407 ENO1
408 CHCHD2
409 ARPC2
410 PSMB3
411 NCDN
412 CTSW
413 CNOT2
414 SRA1
415 YWHAE
416 HES4
417 PAM
418 JOSD1
419 HLA-DRB5
420 PFN1
421 PRKCH
422 NEDD9

423 SSH1
424 SERTAD1
425 DCAF13
426 TRIM26
427 SLC25A46
428 RNF139
429 TBC1D4
430 IGFBP2
431 SRP14
432 EIF4E
433 DNAJB6
434 ARL6IP1
435 RALGDS
436 PTPRN2
437 TCTN3
438 C20orf24
439 EWSR1
440 PSMA7
441 TGIF1
442 CKS2
443 NMB
444 COPE
445 CWC25
446 RGCC
447 GRK5
448 CD28
449 TGIF2
450 IRF4
451 PRR5L
452 SEC11A
453 ARID4B
454 MZB1
455 KDM2B
456 UBE2F
457 TIMM8B
458 LAP3
459 CTNNB1
460 POMP
461 DGKH
462 CFL1
463 CDK2AP2
464 NDUFB6
465 NPDC1
466 EDARADD
467 RAB8B
468 SPPL2A
469 ALDOA

470 PPT1
471 PRRC2C
472 MPDU1
473 N4BP1
474 CAMK1
475 AVPI1
476 DDIT3
477 ATP6V0D1
478 LGALS9
479 AHSA1
480 UBE2B
481 POLR2A
482 CRELD2
483 CCT5
484 CD59
485 CALM3
486 APOBEC3F
487 SRSF7
488 PECAM1
489 SELK
490 NOCT
491 GNPTAB
492 UBE2K
493 UBE2E3
494 SMS
495 CTD1P1
496 ARF1
497 OSBPL3
498 FAM53B
499 ETF1
500 DNNTIP2
501 MRPL47
502 CTSD
503 PARVB
504 ODC1
505 CD3D
506 TIMM17A
507 C12orf49
508 DDX3X
509 NFKBIE
510 HSPA1B
511 NELFCD
512 UBE2L6
513 PCNA
514 USP11
515 GLUD1
516 ISG15

517 VCP
518 KDM5B
519 CLTA
520 ATP5J2
521 CCT3
522 HSPA4
523 CLN8
524 ACOT9
525 ZNF267
526 ITM2C
527 UBF1
528 PPP1R10
529 USP36
530 IL2RG
531 RAB1B
532 CSNK1G3
533 STK17B
534 SYNE3
535 IFI35
536 RILPL2
537 MX1
538 UBE2I
539 NDUFC2
540 DRAP1
541 RANBP1
542 CMC2
543 AP2S1
544 TFPT
545 RANGAP1
546 WDR1
547 EIF4A3
548 NDUFV2
549 HNRNPK
550 TYMP
551 LSM1
552 HNRNPA1
553 EIF4EBP1
554 TDG
555 UBE2D3
556 PLA2G16
557 MCM6
558 GCNT1
559 SPATS2L
560 HLA-DQA2
561 ETS1
562 PSMB1
563 IFRD1

564 HN1
565 ARM CX3
566 PTPN6
567 RBM8A
568 YWHAB
569 PSMB2
570 ELMSAN1
571 IL1B
572 NUDT5
573 REC8
574 PDXK
575 CCT4
576 LINC01420
577 FMNL1
578 PDE3B
579 PPDPF
580 NFKBIA
581 CXCR6
582 SLC7A6
583 ATP5B
584 GTF3C1
585 TMEM258
586 MRFAP1
587 CAPZB
588 TRIAP1
589 TOB2
590 COX8A
591 HNRNPA3
592 TXNDC17
593 FAM53C
594 SLC38A2
595 CXorf40B
596 BCL2
597 SNRPD3
598 RAB1A
599 SLC38A1
600 MCTP2
601 TCP1
602 SLC3A2
603 STOML2
604 KDM6B
605 CDC123
606 NCOR1
607 SAT1
608 PTPN11
609 SRSF9
610 LRRC28

611 MXD4
612 SNRPD1
613 TOPORS
614 KHDRBS1
615 ARID5A
616 RCHY1
617 OPTN
618 SNX18
619 TOP1
620 RNF114
621 COPRS
622 H2AFY
623 PER1
624 ACIN1
625 NASP
626 SCPEP1
627 LTA
628 PSTPIP1
629 TWF2
630 WDR74
631 CSTB
632 MIR4435-2HG
633 GATA3
634 EXOSC9
635 PTPN22
636 TRAF4
637 CAB39
638 STARD4
639 BCAS4
640 LDHA
641 AKAP17A
642 FAM103A1
643 PPP1CA
644 HBS1L
645 FOSL2
646 ROMO1
647 TMBIM6
648 DNAJB11
649 FDXR
650 LTV1
651 ITPR1
652 PARP14
653 SDE2
654 CLTC
655 MPG
656 BTN2A2
657 N4BP2

658 SCO2
659 USO1
660 WDR18
661 NDUFA13
662 B9D2
663 PSMD12
664 DERL2
665 FXR1
666 MAPRE2
667 ETNK1
668 CCDC6
669 APOBEC3H
670 B3GNT2
671 MBIP
672 AP1G1
673 KRR1
674 PRDX6
675 SYNJ2
676 NDUFAB1
677 MFAP1
678 TFDP1
679 COX5A
680 TERF1
681 MRPL32
682 BICD1
683 PTPRE
684 GPR18
685 C3orf17
686 CCL3L3
687 RAN
688 C17orf49
689 DBI
690 ZC3H7A
691 CHORDC1
692 EIF3J
693 ZNF622
694 APOBEC3D
695 SAP18
696 SERBP1
697 PSMB8
698 PSMA4
699 YTHDF3
700 NONO
701 NPIP5
702 ABCC1
703 ATP6V1D
704 PDE4DIP

705 MYH9
706 GMDS
707 PHTF2
708 TMPO
709 NFATC1
710 SLC1A5
711 CHPF
712 C19orf24
713 MRPL28
714 TAB2
715 SHMT2
716 AGO2
717 MAP4K1
718 OPA1
719 REL
720 KMT5C
721 GPBP1
722 WDR83OS
723 ZC3H12A
724 CSNK1D
725 GOLGB1
726 GTF3C6
727 CALM2
728 RAB22A
729 EIF5
730 ZNHIT1
731 LAMTOR3
732 CERS5
733 TMEM9
734 METTL8
735 ILF3
736 EDF1
737 EMC3
738 CNP
739 PTPRJ
740 SRI
741 STARD7
742 HNRNPU
743 E2F6
744 CHAMP1
745 PSMA2
746 SNU13
747 RNASEK
748 PVT1
749 EFTUD2
750 SEC24A
751 SLCO4A1

752 DPP3
753 SIRT2
754 PAK2
755 ANP32A
756 EPAS1
757 CISD2
758 TFRC
759 SUMO1
760 PCED1B
761 EMD
762 PSMD14
763 IMMT
764 UBE2N
765 UQCRC2
766 NDUFB11
767 BUD31
768 YWHAH
769 AGFG1
770 TMEM39A
771 ODF3B
772 GRB2
773 ZDBF2
774 KCNK6
775 PAIP1
776 KIAA0232
777 NAPA
778 CTSA
779 CD247
780 IST1
781 CAT
782 CFAP20
783 CHIC2
784 KIAA0319L
785 ORMDL2
786 TFG
787 LGALS8
788 ATP2A2
789 APLP2
790 HNRNPL
791 CTPS1
792 ERI1
793 BCL11B
794 MRPL52
795 OASL
796 MAP1LC3B
797 TMX1
798 SOCS3

799 ECE1
800 TWISTNB
801 ZNF791
802 CCT2
803 AP3S1
804 TXNL1
805 SLFN5
806 RAB3GAP1
807 ELAVL1
808 AP1S1
809 TCEB3
810 GTF2H1
811 SH2D2A
812 MAP2K7
813 GBP4
814 ATP5C1
815 ADAR
816 PLEKHA2
817 DNAJA2
818 WSB2
819 JOSD2
820 NRAS
821 HYOU1
822 NUP98
823 LINC00649
824 COPB2
825 SGMS1
826 GCDH
827 LITAF
828 DOHH
829 VDAC1
830 LRMP
831 DDB1
832 GTPBP4
833 UBL5
834 CDKN1B
835 ING3
836 PFKFB3
837 CD68
838 IL4R
839 PRKAR1A
840 MOB1A
841 CLSTN3
842 ADAM10
843 TARS
844 COG7
845 CAPRIN1

846 GRINA
847 PSMA3
848 BLOC1S2
849 DNMT3A
850 FAM179A
851 PRDX5
852 TM9SF2
853 CAP1
854 DDX54
855 RAE1
856 MRPS36
857 BTBD1
858 SLC4A2
859 CD83
860 RAB10
861 SF3B1
862 MRPL12
863 SNRPG
864 GTF2I
865 STRAP
866 LIMD2
867 BACH1
868 MAFF
869 NAA50
870 STX5
871 CCT6A
872 HNRNPUL1
873 EIF4E2
874 EIF4G1
875 CSNK2B
876 RLF
877 HELLS
878 PRMT1
879 NDUFA7
880 COX16
881 CNN2
882 ATP5A1
883 EIF3A
884 RALY
885 KDM2A
886 GPX1
887 NUDC
888 RASGRP1
889 PPP2R4
890 PIM2
891 ATP6V1E1
892 CMTM6

893 ABCF1
894 KDELR2
895 LRBA
896 IFIH1
897 TM2D3
898 ZBTB38
899 WNT10A
900 ETFB
901 TIMM50
902 C1orf43
903 MFSD6
904 POLB
905 HSPA9
906 NUDT16L1
907 FAM160B1
908 OTUD4
909 TP53INP2
910 PPHLN1
911 PSMB4
912 THG1L
913 LAMTOR5
914 TIMMDC1
915 MLEC
916 C17orf89
917 SLTM
918 ZC3H12D
919 EVI2A
920 SNRNP70
921 DDI2
922 GET4
923 KLHL2
924 HDLBP
925 RNMT
926 CTNNAL1
927 MAD2L1BP
928 LRRC61
929 STX6
930 FAF2
931 PSMB7
932 ST8SIA4
933 DCUN1D5
934 PIGT
935 HNRNPC
936 SRSF3
937 PLK3
938 NDUFS3
939 TOM1

940 DZIP3
941 PBDC1
942 GOLPH3
943 SMC3
944 RIT1
945 SNRNP25
946 C14orf166
947 SUCO
948 CLIC3
949 DESI1
950 DPP8
951 ATG12
952 GZMA
953 LPTM4A
954 WHSC1L1
955 TOMM22
956 HMG2
957 EMC7
958 MAP4
959 C1QA
960 CCT8
961 CHMP2A
962 MAT2A
963 ATPIF1
964 PSMA1
965 SERTAD3
966 C11orf98
967 CCSER2
968 YTHDF2
969 SEC13
970 FAM207A
971 NDUFA9
972 PSMC2
973 RMDN1
974 ISCU
975 RRP1
976 HSPB1
977 KIAA0101
978 ADRM1
979 PPP3R1
980 ESYT1
981 CDC73
982 HSPB11
983 ACCL3
984 SEC23B
985 PPIF
986 HSPBP1

987 SLC25A44
988 OAS3
989 NDUFA6
990 SF3B2
991 SCNM1
992 GTPBP1
993 PTBP1
994 MDH1
995 LSM2
996 SCAMP4
997 CD63
998 SRSF6
999 RMND5A
1000 RALGAPA1
1001 FNBP1
1002 C1QC
1003 PPP4C
1004 GNL1
1005 NDUFB3
1006 NCOA1
1007 TNFSF10
1008 TIPRL
1009 LMTK2
1010 USP7
1011 ATP6AP1
1012 TSN
1013 PACSIN2
1014 KCTD5
1015 SMARCB1
1016 ZBTB21
1017 ELP6
1018 CDC42SE1
1019 AKIRIN2
1020 NR4A1
1021 COMMD7
1022 HDAC7
1023 CDC37L1
1024 C9orf16
1025 GNGT2
1026 DPP9
1027 COL4A3BP
1028 CDC5L
1029 DDX49
1030 SKA2
1031 PSMC1
1032 HACD3
1033 ARL1

1034 SIT1
1035 SRPRB
1036 CDS2
1037 MKLN1
1038 RBX1
1039 BORCS5
1040 EP300
1041 RBBP4
1042 PPP1R2
1043 ITPA
1044 PSMD2
1045 TPGS1
1046 RBBP8
1047 EIF4A1
1048 GSTO1
1049 DIS3
1050 AURKAIP1
1051 SURF2
1052 LETM1
1053 ERP44
1054 IP6K2
1055 IL2RB
1056 POLR1C
1057 SMARCAD1
1058 AEN
1059 PDIA3
1060 KAT5
1061 CHMP4A
1062 CHPT1
1063 TNFRSF10B
1064 GSK3B
1065 NEU1
1066 EIF6
1067 RHOB
1068 ATP5G3
1069 UBAP1
1070 CXorf40A
1071 DTX3
1072 CCNT1
1073 ZCCHC2
1074 SIAH2
1075 HNRNPR
1076 RAPGEF1
1077 MAPK13
1078 EI24
1079 HIST1H2BN
1080 NUTF2

1081 ZNF124
1082 C1QB
1083 FAM168B
1084 AP1B1
1085 NME1
1086 EML2
1087 CD2
1088 NABP2
1089 ROCK1
1090 CNOT6L
1091 SYAP1
1092 IL9R
1093 ATP5G1
1094 PSMD7
1095 SQRDL
1096 PSPC1
1097 ATG2A
1098 TALDO1
1099 MUL1
1100 UBE2V1
1101 ZBTB17
1102 AP3D1
1103 SH3GLB1
1104 ACTA2
1105 MAP3K8
1106 CUEDC2
1107 ZEB1
1108 ARHGAP9
1109 DLEU2
1110 PPP4R3A
1111 UQCC2
1112 CD79B
1113 NOC2L
1114 MPV17
1115 ERCC1
1116 CXXC1
1117 OTULIN
1118 DUSP11
1119 NAA60
1120 PUF60
1121 GALNT1
1122 PFKP
1123 C18orf25
1124 SLBP
1125 G6PC3
1126 PRELID1
1127 DCPS

1128 PRCC
1129 JAKMIP1
1130 SMARCA5
1131 CH507-9B2.3
1132 ADSL
1133 TSPAN5
1134 TRAPPC2L
1135 DGKZ
1136 LRRC41
1137 RBM5
1138 MPC2
1139 PSMC3
1140 ENOSF1
1141 NDUFA2
1142 GADD45B
1143 SUPT5H
1144 ZNHIT3
1145 C1D
1146 RRBP1
1147 ARCN1
1148 PRKAR1B
1149 ATP6VOB
1150 MRPS11
1151 TMEM179B
1152 EXOSC4
1153 ASXL2
1154 RNF7
1155 DNAJB4
1156 GRIPAP1
1157 BCLAF1
1158 SPNS1
1159 RASA1
1160 GAS7
1161 SPTY2D1
1162 ZFYVE28
1163 GRSF1
1164 TOLLIP
1165 G6PD
1166 NDUFS7
1167 TRUB2
1168 PLPP5
1169 TMX3
1170 CCDC28B
1171 SLC39A7
1172 ZBTB43
1173 CYTIP
1174 UBA2

1175 HBP1
1176 WAPL
1177 LINC00152
1178 ERCC3
1179 LAGE3
1180 LUC7L2
1181 PARP1
1182 ZFYVE1
1183 ZMAT3
1184 UBN1
1185 MAP3K2

Supplementary Data 3: Conserved IFN γ + T_{PHEx} gene signature

Gene

- 1 Rgs1
- 2 Maf
- 3 Ccl5
- 4 Gzmk
- 5 Havcr2
- 6 Prf1
- 7 Nkg7
- 8 Ctsd
- 9 Psmb8
- 10 Cd28
- 11 Ccr5
- 12 Csf1
- 13 Ccl3
- 14 Arl6ip1
- 15 Dusp2
- 16 Tox
- 17 Pdc1
- 18 H3f3b
- 19 Ccnd2
- 20 Entpd1
- 21 Sh2d1a
- 22 Metrnl
- 23 Bcl11b
- 24 Ctla4
- 25 Gadd45b
- 26 Cd82
- 27 Bhlhe40
- 28 Asb2
- 29 Cst7
- 30 Plk3
- 31 Irf1
- 32 Ubl5
- 33 Runx3
- 34 Mir155hg
- 35 Hspa5
- 36 Batf
- 37 Prdm1
- 38 Cd2
- 39 Nedd9
- 40 Atxn1
- 41 Cd27
- 42 Stk17b
- 43 Dnaja1
- 44 Nfatc1
- 45 Adgrg1

46 Pstpip1
47 Mxd4
48 Zbtb38
49 Tmbim6
50 Cd200r1
51 Pttg1
52 Sema4a
53 Cdkn1b
54 Ubc
55 Syt11
56 Tnfaip3
57 Lsp1
58 Pla2g16
59 Cd247
60 Cblb
61 Icos
62 Rab27a
63 Sh3glb1
64 Tap1
65 Samsn1
66 Trps1
67 Btg3
68 Hsp90aa1
69 Itm2c
70 Map1lc3b