

Supplementary Table 1. The primer sequences for qPCR

|              | Forward(5'-3')          | Reverse(5'-3')           |
|--------------|-------------------------|--------------------------|
| Nr1h4        | GCTTGATGTGCTACAAAAGCTG  | CGTGGTGATGGTTGAATGTCC    |
| Cyp7a1       | AAACTCCCTGTCATACCACAAAG | TTCCATCACTTGGGTCTATGC    |
| Tgr5         | TGCTTCTTCCTAAGCCTACTACT | CTGATGGTTCCGGCTCCATAG    |
| Cyp27a1      | CCAGGCACAGGAGAGTACG     | GGGCAAGTGCAGCACATAG      |
| Abcb11       | AGGTTGTGGGTAACTACTGGG   | TCAAACCATCCGATTTCCATTCT  |
| OST $\beta$  | AGATGCGGCTCCTTGGAATTA   | TGGCTGCTTCTTTCGATTCTG    |
| IL-1 $\beta$ | GCAACTGTTCTGAACCTCAACT  | ATCTTTTGGGGTCCGTCAACT    |
| shp          | TGGGTCCCAAGGAGTATGC     | GCTCCAAGACTTCACACAGTG    |
| Tnf $\alpha$ | CCCTCACACTCAGATCATCTTCT | GCTACGACGTGGGCTACAG      |
| Il6          | TAGTCCTTCCTACCCCAATTTCC | TTGGTCCTTAGCCACTCCTTC    |
| Klf4         | GGCGAGTCTGACATGGCTG     | GCTGGACGCAGTGTCTTCTC     |
| Inos         | CAGGGAGAACAGTACATGAACAC | TTGGATACACTGCTACAGGGA    |
| Arg1         | CTCCAAGCCAAAGTCCTTAGAG  | AGGAGCTGTCATTAGGGACATC   |
| Mrc1         | CTCTGTTCAGCTATTGGACGC   | CGGAATTTCTGGGATTTCAGCTTC |
| Actin        | GGCTGTATTCCCCTCCATCG    | CCAGTTGGTAACAATGCCATGT   |

Supplementary Table 2. The information of reagents and assay kits

| Reagents and assay kits                           | SOURCE           | IDENTIFIER          |
|---------------------------------------------------|------------------|---------------------|
| Lipopolysaccharides from Escherichia coli 0111:B4 | Sigma-Aldrich    | Cat#L2630           |
| Taurodeoxycholic acid                             | MedChemExpress   | CAS No. : 516-50-7  |
| Oligomycin                                        | MCE              | CAS No. : 1404-19-9 |
| Commercial Assays kit                             |                  |                     |
| IL-1 $\beta$ ELISA Kit                            | nanjingjiancheng | H002-1-2            |
| TNF- $\alpha$ ELISA Kit                           | nanjingjiancheng | H052-1-2            |
| IL-6 ELISA Kit                                    | nanjingjiancheng | H007-1-2            |
| FreeZol Reagent                                   | Vazyme           | R711-01             |
| Taq Pro Universal SYBR qPCR Master Mix            | Vazyme           | Q712-02             |

Supplementary Table 3. The GSEA KEGG Enrichment of differentially expressed mRNAs in the liver of CON and LPS group

| ID               | Description                             | NES          | P-value      | Adjusted P-value | rank     | core_enrichment_GeneName                                                                                                                                                                                                                                                                                                                                                         |
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| mmu<br>0466<br>8 | TNF<br>signaling<br>pathway             | 2.687<br>191 | 1E-<br>10    | 2.6E-<br>09      | 22<br>25 | Cxcl2;Cxcl3;Cxcl1;Ptgs2;Sele;Il6;Ccl2<br>;Cxcl10;Tnfaip3;Cxcl5;Lif;Socs3;Tnf;Il<br>11b;Junb;Ccl5;Gm5431;Edn1;Fos;Mlkl;<br>Icam1;Mmp3;Ifi47;Traf1;Bcl3;Ccl12;J<br>un;Map3k8;Creb311;Irf1;Birc3;Creb5;F<br>as;Nod2;Nfkb1a;Map3k14;Csf2;Ccl20;<br>Mmp9;Akt3;Csf1;Tnfrsf1b;Casp7;Birc<br>2;Cebpb;Nfkb1;Rela;Vcam1;Lta;Map2<br>k1;Tnfrsf1a;Il15;Creb312;Il18r1;Creb31<br>4;Atf4;Ripk1 |
| mmu<br>0465<br>7 | IL-17<br>signaling<br>pathway           | 2.675<br>75  | 1E-<br>10    | 2.6E-<br>09      | 19<br>05 | Csf3;Cxcl2;Cxcl3;Cxcl1;Ptgs2;Ccl7;Ifn<br>g;Mmp13;Il6;Ccl2;Cxcl10;Tnfaip3;Cxc<br>l5;S100a9;S100a8;Lcn2;Fosl1;Tnf;Il1b<br>;Il17a;Il17f;Ccl11;Il17ra;Fos;Mmp3;Cc<br>l12;Jun;Il17c;Nfkb1a;Csf2;Ikake;Ccl20;<br>Mmp9;Muc5b;Tbk1;Cebpb;Nfkb1;Rela<br>;Usp25;Ccl17;Jund                                                                                                                 |
| mmu<br>0516<br>4 | Influenza A                             | 2.500<br>915 | 1E-<br>10    | 2.6E-<br>09      | 20<br>25 | Ifng;Mx1;Rsad2;Il6;Ccl2;Cxcl10;Il12b;<br>Socs3;Prss3;Tnf;Il1b;Ccl5;Apaf1;Il33;<br>Tnfrsf10b;Mx2;Try5;Icam1;Try4;Oas1<br>a;Prss2;Ccl12;Oas1g;Oas3;Nlrp3;Eif2a<br>k2;Tlr3;Nxf2;Il12a;Ifih1;Irf7;Myd88;O<br>as2;Tnfsf10;Actg1;Pml;Fas;Il1a;Nfkb1a<br>;2210010C04Rik;Ikake;Rigi;Akt3;Adar<br>;Stat1;Oas1b;Tbk1;Try10;Nfkb1;Rela;J<br>ak2;Map2k1;Nfkb1b;Tnfrsf1a;Gm5771;<br>Nup98     |
| mmu<br>0462<br>3 | Cytosolic<br>DNA-<br>sensing<br>pathway | 2.407<br>934 | 1.41<br>E-10 | 3.34E-<br>09     | 18<br>70 | Il6;Cxcl10;Ccl4;Il1b;Ccl5;Samhd1;Il33<br>;Zbp1;Mefv;Mlkl;Nlrp3;Irf7;Nfkb1a;Ik<br>ake;Rigi;Sting1;Adar;Casp7;Tbk1;Nfk<br>b1;Rela;Nfkb1b;Polr3d;Cgas;Gsdmd                                                                                                                                                                                                                         |

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| mmu<br>0406<br>0 | Cytokine-<br>cytokine<br>receptor<br>interaction | 2.384<br>125 | 1E-<br>10    | 2.6E-<br>09  | 22<br>74 | Csf3;Cxcl2;Cxcl3;Cxcl1;Il1r2;Il21;Il1r<br>n;Ccl3;Osm;Il23r;Ccl7;Ifng;Tnfrsf9;Il6<br>;Ccl2;Tnfsf15;Cxcl10;Cxcl5;Il36g;Il12<br>b;Lif;Il19;Ccl4;Il22;Cxcl9;Tnf;Il1b;Cd<br>40;Tnfsf9;Il27;Il17a;Inhbb;Ccl5;Ccr1;<br>Cxcr2;Il17f;Il33;Ccl11;Il18rap;Tnfrsf1<br>0b;Il20rb;Il1r1;Cxcl17;Gdf15;Eda2r;Il1<br>7ra;Il36a;Cxcl11;Osmr;Lepr;Ppbp;Il10;<br>Ccl12;Ccl19;Il12a;Csf3r;Tnfrsf12a;Ac<br>vr1b;Tnfsf10;Cxcl15;Il17c;Fas;Ccl8;Eb<br>i3;Il1a;Ccr7;Tnfsf14;Csf2;Ifnlr1;Il7;Il1<br>rl2;Ccl20;Csf1;Xcl1;Tnfrsf1b;Tnfrsf8;I<br>l2ra;Epo;Lep;Gdf9;Csf2rb2;Il10rb;Lta;<br>Il23a;Ccl17;Mpl;Tnfrsf1a;Il15;Il11;Ngf<br>;Il11ra2;Il18r1;Tnfrsf21;Il3ra;Il12rb2;Il<br>13ra1;Csf2rb;Relt;Il2rg;Ccl22<br><br>Cxcl2;Cxcl3;Cxcl1;Il6;Ccl2;Tnfaip3;G<br>bp5;Gbp2;Camp;Tnf;Il1b;Ccl5;Gbp3;<br>Mefv;Casp4;Nampt;Gbp7;Irgm1;Oas1a<br>;Ripk2;Ccl12;Oas1g;Oas3;Nlrp3;Jun;B<br>cl2l1;Casr;Irf7;Myd88;Birc3;Oas2;Nod<br>2;Nfkbia;Ifi204;Ikbke;Sting1;Nlrp12;Ir<br>gm2;Stat1;Oas1b;Birc2;Tbk1;Nfkb1;R<br>ela;Panx1;Nfkbib;Cybb;Gsdmd;Nod1;<br>Map1lc3b;Rnf31;Ripk1;Ticam1;Defb4;<br>Nek7;Naip2;Tank;Rnasel<br><br>Cxcl2;Cxcl3;Cxcl1;Ptgs2;Cd14;Tnfaip<br>3;Ccl4;Tnf;Il1b;Gadd45a;Cd40;Gadd4<br>5b;Gadd45g;Il1r1;Eda2r;Bcl2a1a;Bcl2a<br>1d;Icam1;Relb;Traf1;Bcl2l1;Bcl2a1b;C<br>cl19;Myd88;Birc3;Nfkb2;Nfkbia;Map3<br>k14;Tnfsf14;Lck;Rigi;Birc2;Lbp;Nfkb1<br>;Rela;Vcam1;Lta;Tnfrsf1a;Bcl10;Syk;<br>Blnk;Ripk1;Ticam1<br><br>Ccl3;Cd14;Il6;Cxcl10;Il12b;Ccl4;Tlr2;<br>Cxcl9;Tnf;Il1b;Cd40;Ccl5;Fos;Cxcl11;<br>Jun;Map3k8;Cd80;Tlr3;Il12a;Irf7;Myd<br>88;Nfkbia;Ikbke;Akt3;Stat1;Tlr6;Tbk1;<br>Lbp;Nfkb1;Rela;Map2k1<br><br>Csf3;Sele;Ifng;Il6;Ccl2;Tlr2;Tnf;Il1b;T<br>hbs1;Selp;Cd40;Ackr1;Icam1;Il10;Ccl1<br>2;Il12a;Myd88;Gypa |
| mmu<br>0462<br>1 | NOD-like<br>receptor<br>signaling<br>pathway     | 2.374<br>564 | 1E-<br>10    | 2.6E-<br>09  | 27<br>60 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0406<br>4 | NF-kappa B<br>signaling<br>pathway               | 2.374<br>417 | 1E-<br>10    | 2.6E-<br>09  | 22<br>87 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0462<br>0 | Toll-like<br>receptor<br>signaling<br>pathway    | 2.341<br>562 | 1.01<br>E-10 | 2.6E-<br>09  | 17<br>51 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0514<br>4 | Malaria                                          | 2.333<br>829 | 9.02<br>E-09 | 1.42E-<br>07 | 11<br>75 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| mmu<br>0517<br>1 | Coronavirus<br>disease -<br>COVID-19 | 2.326<br>241 | 1E-<br>10    | 2.6E-<br>09  | 19<br>67 | Csf3;Mx1;Il6;Ccl2;Cxcl10;Il12b;Tlr2;<br>Tnf;Il1b;Selp;Isg15;Mx2;Fos;Mmp3;O<br>as1a;Ccl12;Oas1g;Oas3;Nlrp3;Jun;Eif2<br>ak2;Tlr3;Il12a;Ifih1;Myd88;Oas2;Hbeg<br>f;Nfkb1a;Csf2;Ikbke;Rigi;C1s2;Sting1;<br>Stat3;Adar;Stat1;Oas1b;Tbk1;Nfkb1;R<br>ela;C5ar1;Nfkbib;Fgg;Tnfrsf1a;Cybb;F<br>ga;Cgas;Fgb;Fcgr3;Syk                                                                                                                                                                                                                  |
| mmu<br>0513<br>4 | Legionellosi<br>s                    | 2.309<br>672 | 3.39<br>E-09 | 5.65E-<br>08 | 15<br>62 | Cxcl2;Cxcl3;Cxcl1;Cd14;Il6;Il12b;Tlr2<br>;Tnf;Il1b;Apaf1;Il12a;Myd88;Nfkb2;N<br>fkb1a;Hspa2;Itgam;Casp7;Nfkb1;Rela                                                                                                                                                                                                                                                                                                                                                                                                           |
| mmu<br>0541<br>7 | Lipid and<br>atheroscleros<br>is     | 2.298<br>904 | 1E-<br>10    | 2.6E-<br>09  | 36<br>12 | Cxcl2;Cxcl3;Cxcl1;Ccl3;Cd14;Sele;Il6;<br>Ccl2;Olr1;Il12b;Tlr2;Tnf;Il1b;Selp;Cd4<br>0;Ccl5;Apaf1;Tnfrsf10b;Fos;Icam1;M<br>mp3;Ccl12;Nlrp3;Nox1;Jun;Bcl2l1;Il1<br>2a;Irf7;Myd88;Tnfsf10;Fas;Nfkb1a;Cal<br>ml3;Hspa2;Ikbke;Mmp9;Stat3;Akt3;Ab<br>ca1;Tlr6;Casp7;Sod2;Tbk1;Lbp;Nfkb1;<br>Rela;Vcam1;Jak2;Ncf1;Tnfrsf1a;Cybb;<br>Xbp1;Atf4;Ncf4;Ticam1;Tirap;Vav1;R<br>xrg;Bax;Tank;Rap1b;Ager;Cyp2j8;Ly9<br>6;Pik3cd;Ptk2;Map2k4;Hspa5;Trp53;H<br>spa8;Casp8;Mapk13;Fas;Ddit3;Hsp90<br>aa1;Irak4;Casp3;Eif2ak3;Camk2b;Pou2<br>f2 |
| mmu<br>0532<br>3 | Rheumatoid<br>arthritis              | 2.291<br>505 | 7.64<br>E-10 | 1.54E-<br>08 | 18<br>60 | Cxcl2;Cxcl3;Cxcl1;Ccl3;Ifng;Il6;Ccl2;<br>Cxcl5;Atp6v0a4;Tlr2;Tnf;Il1b;Il17a;Cc<br>l5;Cd28;Fos;Icam1;Mmp3;Ccl12;Jun;C<br>d80;Il1a;Csf2;Ccl20;Csfl;Angpt1;Tcir<br>g1;Il23a;Il15;Atp6v0a1;Il11                                                                                                                                                                                                                                                                                                                                  |
| mmu<br>0516<br>2 | Measles                              | 2.290<br>107 | 1E-<br>10    | 2.6E-<br>09  | 35<br>76 | Slamf1;Mx1;Il6;Tnfaip3;Il12b;Tlr2;Il1<br>b;Cd28;Apaf1;Mx2;Fos;Oas1a;Oas1g;<br>Oas3;Jun;Eif2ak2;Bcl2l1;Il12a;Ifih1;Irf<br>7;Myd88;Oas2;Fas;Il1a;Nfkb1a;Hspa2;I<br>kbke;Rigi;Stat3;Akt3;Adar;Stat1;Oas1b<br>;Il2ra;Tbk1;Nfkb1;Rela;Nfkbib;Ccne1;<br>Il2rg;Bbc3;Tlr7;Il2;Bax;Msn;Cblb;Pik3<br>cd;Irf9;Trp53;Stat2;Ccnd1;Hspa8;Casp<br>8;Ifnar2;Rchy1;Fas;Jak3;Bak1;Irak4;C<br>asp3;Eif2ak3                                                                                                                                      |

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|------------------|------------------------------------------------------------------------------|--------------|--------------|--------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| mmu<br>0406<br>1 | Viral protein<br>interaction<br>with<br>cytokine and<br>cytokine<br>receptor | 2.261<br>271 | 1.94<br>E-09 | 3.43E-<br>08 | 18<br>02 | Cxcl2;Cxcl3;Cxcl1;Ccl3;Ccl7;Il6;Ccl2;<br>Cxcl10;Cxcl5;Il19;Ccl4;Cxcl9;Tnf;Ccl<br>5;Ccr1;Cxcr2;Ccl11;Il18rap;Tnfrsf10b;<br>Il20rb;Cxcl11;Ppbbp;Il10;Ccl12;Ccl19;<br>Tnfsf10;Ccl8;Ccr7;Tnfsf14;Ccl20;Csfl<br>;Xcl1;Tnfrsf1b;Il2ra;Il10rb;Lta;Ccl17;<br>Tnfrsf1a<br>Cxcl2;Cxcl3;Cxcl1;Il1r2;Nos2;Cd14;If<br>ng;Il6;Il12b;Tlr2;Adcy1;Tnf;Il1b;Serp<br>nb3a;Arg2;Il1r1;Il10;Serpnb3b;Il12a;<br>Col4a1;Cs2;Serpnb3c;Itgam;Nfkb1;R<br>ela;Ctsg;Muc2;Serpnb9;Lamc2;Serp<br>nb10<br>Cs3;Il21;Socs1;Osm;Il23r;Ifng;Il6;Il1<br>2b;Lif;Il19;Socs3;Il22;Cdkn1a;Il27;Il2<br>0rb;Pim1;Osmr;Lepr;Cish;Il10;Ptpn2;B<br>cl2l1;Il12a;Cs3r;Socs2;Cs2;Ifnlr1;Il7;<br>Stat3;Myc;Akt3;Stat1;Il2ra;Epo;Lep;Cs<br>f2rb2;Il10rb;Jak2;Il23a;Mpl;Il15;Il11;Il<br>11ra2;Il3ra;Il12rb2;Il13ra1;Cs2rb;Il2r<br>g;Il2;Il4ra;Mcl1;Il7r;Pik3cd;Crlf2;Irf9;<br>Stat2;Socs6;Thpo;Cnd1;Socs7;Il31ra;I<br>fnar2;Jak3;Il6st;Cs2ra<br>Nos2;Cd14;Il6;Cxcl5;Il12b;Tnf;Il1b;Fo<br>s;Il10;Nlrp3;Jun;Il12a;Irf1;Myd88;Irf8;<br>Il1a;Calml3;C1s2;Itgam;Casp7;Nfkb1;<br>Rela;Il23a;Sftpa1;Nod1;Ticam1;Tirap;<br>Ly96;Mapk13;C3;Itgb2;Irak4;C4a;Cas<br>p3;Serpin1 |
| mmu<br>0514<br>6 | Amoebiasis                                                                   | 2.231<br>291 | 1.52<br>E-09 | 2.88E-<br>08 | 21<br>02 | Cs3;Il21;Socs1;Osm;Il23r;Ifng;Il6;Il1<br>2b;Lif;Il19;Socs3;Il22;Cdkn1a;Il27;Il2<br>0rb;Pim1;Osmr;Lepr;Cish;Il10;Ptpn2;B<br>cl2l1;Il12a;Cs3r;Socs2;Cs2;Ifnlr1;Il7;<br>Stat3;Myc;Akt3;Stat1;Il2ra;Epo;Lep;Cs<br>f2rb2;Il10rb;Jak2;Il23a;Mpl;Il15;Il11;Il<br>11ra2;Il3ra;Il12rb2;Il13ra1;Cs2rb;Il2r<br>g;Il2;Il4ra;Mcl1;Il7r;Pik3cd;Crlf2;Irf9;<br>Stat2;Socs6;Thpo;Cnd1;Socs7;Il31ra;I<br>fnar2;Jak3;Il6st;Cs2ra<br>Nos2;Cd14;Il6;Cxcl5;Il12b;Tnf;Il1b;Fo<br>s;Il10;Nlrp3;Jun;Il12a;Irf1;Myd88;Irf8;<br>Il1a;Calml3;C1s2;Itgam;Casp7;Nfkb1;<br>Rela;Il23a;Sftpa1;Nod1;Ticam1;Tirap;<br>Ly96;Mapk13;C3;Itgb2;Irak4;C4a;Cas<br>p3;Serpin1                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| mmu<br>0463<br>0 | JAK-STAT<br>signaling<br>pathway                                             | 2.195<br>227 | 6.34<br>E-10 | 1.38E-<br>08 | 34<br>90 | Cs3;Il21;Socs1;Osm;Il23r;Ifng;Il6;Il1<br>2b;Lif;Il19;Socs3;Il22;Cdkn1a;Il27;Il2<br>0rb;Pim1;Osmr;Lepr;Cish;Il10;Ptpn2;B<br>cl2l1;Il12a;Cs3r;Socs2;Cs2;Ifnlr1;Il7;<br>Stat3;Myc;Akt3;Stat1;Il2ra;Epo;Lep;Cs<br>f2rb2;Il10rb;Jak2;Il23a;Mpl;Il15;Il11;Il<br>11ra2;Il3ra;Il12rb2;Il13ra1;Cs2rb;Il2r<br>g;Il2;Il4ra;Mcl1;Il7r;Pik3cd;Crlf2;Irf9;<br>Stat2;Socs6;Thpo;Cnd1;Socs7;Il31ra;I<br>fnar2;Jak3;Il6st;Cs2ra<br>Nos2;Cd14;Il6;Cxcl5;Il12b;Tnf;Il1b;Fo<br>s;Il10;Nlrp3;Jun;Il12a;Irf1;Myd88;Irf8;<br>Il1a;Calml3;C1s2;Itgam;Casp7;Nfkb1;<br>Rela;Il23a;Sftpa1;Nod1;Ticam1;Tirap;<br>Ly96;Mapk13;C3;Itgb2;Irak4;C4a;Cas<br>p3;Serpin1                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| mmu<br>0513<br>3 | Pertussis                                                                    | 2.169<br>133 | 8.27<br>E-08 | 1.12E-<br>06 | 35<br>16 | Cs3;Il21;Socs1;Osm;Il23r;Ifng;Il6;Il1<br>2b;Lif;Il19;Socs3;Il22;Cdkn1a;Il27;Il2<br>0rb;Pim1;Osmr;Lepr;Cish;Il10;Ptpn2;B<br>cl2l1;Il12a;Cs3r;Socs2;Cs2;Ifnlr1;Il7;<br>Stat3;Myc;Akt3;Stat1;Il2ra;Epo;Lep;Cs<br>f2rb2;Il10rb;Jak2;Il23a;Mpl;Il15;Il11;Il<br>11ra2;Il3ra;Il12rb2;Il13ra1;Cs2rb;Il2r<br>g;Il2;Il4ra;Mcl1;Il7r;Pik3cd;Crlf2;Irf9;<br>Stat2;Socs6;Thpo;Cnd1;Socs7;Il31ra;I<br>fnar2;Jak3;Il6st;Cs2ra<br>Nos2;Cd14;Il6;Cxcl5;Il12b;Tnf;Il1b;Fo<br>s;Il10;Nlrp3;Jun;Il12a;Irf1;Myd88;Irf8;<br>Il1a;Calml3;C1s2;Itgam;Casp7;Nfkb1;<br>Rela;Il23a;Sftpa1;Nod1;Ticam1;Tirap;<br>Ly96;Mapk13;C3;Itgb2;Irak4;C4a;Cas<br>p3;Serpin1                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| mmu<br>0514<br>3 | African<br>trypanosomi<br>asis                                               | 2.149<br>816 | 4.11<br>E-06 | 3.23E-<br>05 | 90<br>3  | Sele;Ifng;Il6;Il12b;Ido1;Tnf;Il1b;Icam1<br>;Il10;Il12a;Myd88;Fas<br>Il6;Cxcl10;Tnfaip3;Tlr2;Tnf;Cdkn1a;G<br>add45a;Cd40;Gadd45b;Gadd45g;Isg15;<br>Apaf1;Gm8909;Icam1;Relb;H2-<br>Q6;Oas1a;Oas1g;Oas3;Jun;H2-<br>Q4;Tap1;Eif2ak2;Irf7;Myd88;Oas2;Nf<br>kb2;Fas;Nfkb1a;Map3k14;Ikbke;Rigi;R<br>bpjl;Stat3;Myc;Akt3;Stat1;Oas1b;H2-<br>M10.5;Tbk1;Polk;Tapbp;Gm7030;Nfk<br>b1;Tap2;Mdm2;Rela;Nfkb1e;H2-<br>M3;Nfkb1b;Entpd3;H2-<br>D1;Syk;Ccne1;H2-T10;Cd44;H2-<br>T22;Blnk;Gm11127;Ripk1;H2-Q7;H2-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| mmu<br>0516<br>9 | Epstein-Barr<br>virus<br>infection                                           | 2.139<br>312 | 1E-<br>10    | 2.6E-<br>09  | 35<br>10 | Sele;Ifng;Il6;Il12b;Ido1;Tnf;Il1b;Icam1<br>;Il10;Il12a;Myd88;Fas<br>Il6;Cxcl10;Tnfaip3;Tlr2;Tnf;Cdkn1a;G<br>add45a;Cd40;Gadd45b;Gadd45g;Isg15;<br>Apaf1;Gm8909;Icam1;Relb;H2-<br>Q6;Oas1a;Oas1g;Oas3;Jun;H2-<br>Q4;Tap1;Eif2ak2;Irf7;Myd88;Oas2;Nf<br>kb2;Fas;Nfkb1a;Map3k14;Ikbke;Rigi;R<br>bpjl;Stat3;Myc;Akt3;Stat1;Oas1b;H2-<br>M10.5;Tbk1;Polk;Tapbp;Gm7030;Nfk<br>b1;Tap2;Mdm2;Rela;Nfkb1e;H2-<br>M3;Nfkb1b;Entpd3;H2-<br>D1;Syk;Ccne1;H2-T10;Cd44;H2-<br>T22;Blnk;Gm11127;Ripk1;H2-Q7;H2-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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| mmu<br>0421<br>0 | Apoptosis                                      | 2.125<br>443 | 2.53<br>E-08 | 3.76E-<br>07 | 38<br>62 | M9;Bax;Hdac1;Pik3cd;Map2k4;Irf9;Trp53;H2-T23;Stat2;Ccmd1;Casp8;Ifnar2;H2-K1;Mapk13;Jak3;Bak1;Irak4;Casp3;Psmd7<br>Spta1;Tnf;Gadd45a;Gadd45b;Gadd45g;Apaf1;Tnfrsf10b;Gzmb;Bcl2a1a;Bcl2a1d;Fos;Traf1;Jun;Bcl2l1;Bcl2a1b;Birc3;Tnfrsf10;Daxx;Actg1;Fas;Nfkb1a;Map3k14;Akt3;Casp7;Birc2;Nfkb1;Rela;Csf2rb2;Pmaip1;Map2k1;Tnfrsf1a;Prfl;Ngf;Ptpn13;Actb;Il3ra;Csf2rb;Atf4;Ripk1;Bbc3;Tuba3a;Cflar;Tuba8;Bax;Mcl1;Casp2;Pik3cd;Parp3;Trp53;Casp8;Fas1;Bak1;Ddit3;Casp3;Atm;Eif2ak3;Parp4;Bcl2l11;Nras;Map3k5 |
| mmu<br>0462<br>2 | RIG-I-like<br>receptor<br>signaling<br>pathway | 2.124<br>193 | 8.52<br>E-07 | 8.04E-<br>06 | 33<br>40 | Cxcl10;Il12b;Tnf;Isg15;Il12a;Ifih1;Dhx58;Irf7;Nfkb1a;Ikbke;Rigi;Sting1;Adar;Tbk1;Nfkb1;Rela;Nfkbib;A2i2;Otd5;Ripk1;Tank;Ddx3x;Trim25;Map3k1;Casp8;Mapk13                                                                                                                                                                                                                                                                                                                                               |
| mmu<br>0494<br>0 | Type I<br>diabetes<br>mellitus                 | 2.122<br>436 | 8.95<br>E-07 | 8.12E-<br>06 | 26<br>11 | Ifng;Il12b;Tnf;Il1b;Gad2;Cd28;Gzmb;Gm8909;H2-Q6;H2-Q4;Cd80;Il12a;Fas;Gad1;Il1a;Ins1;H2-M10.5;Gm7030;Lta;H2-M3;H2-D1;Prfl;H2-T10;H2-T22;Gm11127;H2-Q7;H2-M9;Il2                                                                                                                                                                                                                                                                                                                                         |
| mmu<br>0514<br>0 | Leishmaniasis                                  | 2.104<br>426 | 9.18<br>E-07 | 8.12E-<br>06 | 19<br>24 | Ptgs2;Nos2;Ifng;Il12b;Tlr2;Tnf;Il1b;Fos;Il10;Jun;Il12a;Myd88;Marcks11;Il1a;Nfkb1a;Itgam;Fcgr4;Stat1;Elk1;Nfkb1;Rela;Jak2;Ncf1;Nfkbib;Cybb;Fcgr3                                                                                                                                                                                                                                                                                                                                                        |
| mmu<br>0438<br>0 | Osteoclast<br>differentiation                  | 2.086<br>564 | 4.09<br>E-08 | 5.79E-<br>07 | 33<br>40 | Socs1;Ifng;Socs3;Fosl1;Tnf;Il1b;Junb;Il1r1;Fos;Relb;Lilra6;Nox1;Jun;Fosl2;Nfkb2;Il1a;Nfkb1a;Map3k14;Lck;Pirb;Gab2;Akt3;Csf1;Fcgr4;Stat1;Pir11;Itgb3;Nfkb1;Rela;Ncf1;Map2k1;Lcp2;Tnfrsf1a;Sirpb1b;Jund;Fcgr3;Syk;Blnk;Calcr;Ncf4;Lilrb4a;Pik3cd;Fcgr1;Irf9;Pir1;Spi1;Stat2;Sirpb1c;Ifnar2;Mapk13                                                                                                                                                                                                        |

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| mmu<br>0532<br>1 | Inflammatory bowel disease | 2.073<br>932 | 2.29<br>E-06 | 1.9E-<br>05  | 26<br>13 | Il21;Il23r;Ifng;Il6;Il12b;Tlr2;Il22;Tnf;Il1b;Il17a;Il17f;Il18rap;Il10;Jun;Il12a;Nod2;Il1a;Stat3;Stat1;Nfkb1;Rela;Il23a;Il18r1;Il12rb2;Il2rg;Il2;Il4ra                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| mmu<br>0514<br>2 | Chagas disease             | 2.067<br>727 | 3.46<br>E-07 | 3.63E-<br>06 | 15<br>62 | Serpine1;Nos2;Ccl3;Ifng;Il6;Ccl2;Il12b;Tlr2;Adcy1;Tnf;Il1b;Ccl5;Fos;Il10;Ccl12;Jun;Il12a;Myd88;Fas;Nfkb1a;Akt3;Tlr6;Nfkb1;Rela                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| mmu<br>0516<br>0 | Hepatitis C                | 2.011<br>015 | 1.72<br>E-07 | 2.12E-<br>06 | 37<br>78 | Ifng;Mx1;Rsad2;Cxcl10;Socs3;Ifit1bl2;Ifit1;Tnf;Cdkn1a;Cldn14;Apaf1;Mx2;Oas1a;Oas1g;Oas3;Ifit1bl1;Cldn13;Eif2ak2;Tlr3;Irf7;Oas2;Fas;Nfkb1a;Ikbke;Rigi;Stat3;Myc;Akt3;Stat1;Oas1b;Tbk1;Nfkb1;Rela;Map2k1;Tnfrsf1a;Ripk1;Ticam1;Cldn10;Cflar;Bax;Rnasel;Pik3cd;Ppp2cb;Ppp2r2a;Irf9;Trp53;Cldn7;Stat2;Ccnd1;Casp8;Ifnar2;Fasl;Bak1;Casp3;Eif2ak3;Cldn4;Ywhaz;Nras                                                                                                                                                                                                                                                             |
| mmu<br>0304<br>0 | Spliceosome                | 1.985<br>625 | 5.86<br>E-07 | 5.72E-<br>06 | 70<br>16 | Hspa2;Tra2a;Dhx38;Srsf3;Prpf38a;Prpf4;Plrg1;Alyref;U2af114;Wbp11;Prpf18;Ddx39b;Hspa8;Prpf31;Sf3b3;Prpf19;Thoc2l;Tra2b;Fus;Snrpd1;Snrnp40;Smndc1;Sf3b4;Dhx8;Ddx5;Slu7;Srsf7;Tcerg1;Snw1;Crnk11;Thoc2;Eif4a3;Sf3a3;Prpf3;Magohb;Sf3b6;Pebp1;Dhx15;Snu13;Snrpf;Xab2;Rbm22;Magoh;Prpf38b;Sf3a2;Sf3b1;Ddx42;Acin1;Rbm17;Puf60;Sf3a1;Hnrnpm;Srsf1;Cdc40;Alyref2;Snrpb;Rp9;Cherp;Hnrnpa1;Bud31;Srsf10;Srsf5;Snrpe;U2surp;Cdc5l;Isy1;Lsm4;Eftud2;Snrpb2;U2af2;Prpf40a;Hnrnp;Sart1;Rbm8a;Rbm;Cwc15;Syf2;Rbm25;Cccl2;Ppie;Snrnp27;Aqr;Snrpa;Prpf6;Snrnp200;Lsm8;Srsf9;Lsm5;Dhx16;Lsm6;U2af1;Hnrnpa3;Snrnp70;Ddx23;Srsf6;Srsf4;Sf3b5 |
| mmu<br>0533<br>0 | Allograft rejection        | 1.985<br>388 | 3.49<br>E-05 | 0.000<br>21  | 33<br>69 | Ifng;Il12b;Tnf;Cd40;Cd28;Gzmb;Gm8909;H2-Q6;Il10;H2-Q4;Cd80;Il12a;Fas;H2-M10.5;Gm7030;H2-M3;H2-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| mmu<br>0533<br>2 | Graft-versus-<br>host disease                                         | 1.974<br>832 | 2.74<br>E-05 | 0.000<br>176 | 33<br>69 | D1;Prfl;H2-T10;H2-<br>T22;Gm11127;H2-Q7;H2-M9;Il2;H2-<br>T23;H2-K1;Fasl;Cd86<br>Ifng;Il6;Tnf;Il1b;Cd28;Gzmb;Gm8909;<br>H2-Q6;H2-Q4;Cd80;Fas;Il1a;H2-<br>M10.5;Gm7030;H2-M3;H2-<br>D1;Prfl;H2-T10;H2-<br>T22;Gm11127;H2-Q7;H2-M9;Il2;H2-<br>T23;H2-K1;Fasl;Cd86                                                                                                                                                                             |
| mmu<br>0515<br>2 | Tuberculosis                                                          | 1.958<br>981 | 2.5E<br>-07  | 2.72E-<br>06 | 19<br>67 | Nos2;Cd14;Ifng;Il6;Atp6v0a4;Il12b;Sp<br>hk1;Clec4e;Camp;Tlr2;Tnf;Il1b;Apaf1;<br>Cyp27b1;Ripk2;Il10;Il12a;Vdr;Myd88;<br>Nod2;Il1a;Calml3;Plk3;Akt3;Itgam;Fc<br>gr4;Tcirg1;Stat1;Tlr6;Cebpb;Lbp;Nfkb<br>l;Rela;Il10rb;Jak2;Il23a;Tnfrsf1a;Atp6<br>v0a1;Fcgr3;Bcl10;Syk                                                                                                                                                                       |
| mmu<br>0520<br>2 | Transcriptio<br>nal<br>misregulatio<br>n in cancer                    | 1.956<br>551 | 2.21<br>E-07 | 2.58E-<br>06 | 35<br>64 | Il1r2;Cd14;Il6;Cdkn1a;Gadd45a;Cd40;<br>Gadd45b;Gadd45g;Nfkbiz;Runx1;Gzm<br>b;Bcl2a1a;Bcl2a1d;H3f3b;Mpo;Mmp3;<br>Jmjd1c;Traf1;Bcl2l1;Bcl2a1b;Birc3;L<br>mo2;Nupr1;Pml;Nr4a3;Csf2;Etv6;Zbtb<br>16;Mmp9;Myc;Itgam;Tfe3;Birc2;Polk;<br>Cebpb;Smad1;Nfkb1;Mdm2;Rela;Rel;<br>H3f4;Arnt2;Rxrg;H3c3;Bax;Hdac1;Ma<br>x;Ptk2;Fcgr1;Taf15;H3c2;Trp53;Spi1;<br>Ccnt1;Kdm6a;Mllt3;Aff1;H3c1;Cd86;<br>Dot1l;H3c7;Bak1;Ddit3;Fus;Zeb1;Atm<br>;Sp1;Tmprss2 |
| mmu<br>0523<br>5 | PD-L1<br>expression<br>and PD-1<br>checkpoint<br>pathway in<br>cancer | 1.955<br>688 | 7.71<br>E-06 | 5.6E-<br>05  | 26<br>41 | Ifng;Tlr2;Cd274;Cd28;Batf2;Batf;Fos;J<br>un;Myd88;Nfkbia;Hif1a;Lck;Stat3;Akt<br>3;Stat1;Nfkb1;Rela;Jak2;Nfkbie;Map2<br>k1;Nfkbib;Rasgrp1;Pdcd1;Ticam1;Tira<br>p;Batf3                                                                                                                                                                                                                                                                      |



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|                  |                                                                  |              |              |              |          | Cxcl2;Cxcl3;Cxcl1;Ptgs2;Il6;Cdkn1a;Ccr1;Gm8909;Fos;Icam1;H2-Q6;Zfp36;Angpt2;Jun;Pik3r5;H2-Q4;Eif2ak2;Tlr3;Irf7;Fas;Nfkb1a;Calml3;Hif1a;Rcan1;Csf2;Ikbke;Stat3;Myc;Akt3;Stat1;H2-M10.5;Tbk1;Gm7030;Gnb5;Nfkb1;Rela;Hck;Gng12;Jak2;H2-M3;Map2k1;Tnfrsf1a;H2-D1;Syk;H2-T10;H2-T22;Gm11127;Map1lc3b;H2-Q7;Ticam1;H2-M9;Mapkapk2;Bax;Cd200r2;Fgf2;Pik3cd;Gng4;Map2k4;Irf9;Trp53;H2-T23;Stat2;Ccnd1;Ccr4;Casp8;Ubb;Ifnar2;H2-K1;Mapk13;Pik3r6;Cd86;C3;Bak1;Il6st                                                                                                    |
| mmu<br>0516<br>7 | Kaposi<br>sarcoma-<br>associated<br>herpesvirus<br>infection     | 1.938<br>615 | 1.14<br>E-07 | 1.46E-<br>06 | 34<br>34 | Il21;Il23r;Ifng;Il6;Il22;Il1b;Il27;Il17a;Il17f;Runx1;Il1r1;Fos;Jun;Ebi3;Nfkb1a;Hif1a;Lck;Stat3;Stat1;Il2ra;Nfkb1;Rela;Jak2;Nfkb1e;Nfkb1b;Il23aIfng;Tnfaip3;Tnf;Il1b;Il33;Tnfrsf10b;Zbp1;Mkl1;Nlrp3;Eif2ak2;Tlr3;Birc3;Tnfsf10;Fas;H2ac7;Il1a;Stat3;Stat1;Birc2;Chmp4b;Jak2;Pla2g4c;Tnfrsf1a;Cybb;Rnf31;Ripk1;Ticam1;H2ac15;H2ac11;Cflar;Bax;Pla2g4f;Irf9;Stat2;Pla2g4e;Casp8;Ifnar2;Fasl;Jak3;Hsp90aa1;Ripk3;Camk2bSerpine1;Nos2;Ifng;Il6;Timp1;Cdkn1a;Pfkfb3;Edn1;Angpt2;Hk2;Hif1a;Stat3;Akt3;Angpt1;Ins1;Epo;Nfkb1;Rela;Map2k1;Cybb;Hmox1;Hk3;Hk1;Ldha;Pfkp |
| mmu<br>0465<br>9 | Th17 cell<br>differentiation                                     | 1.933<br>096 | 5.43<br>E-06 | 4.15E-<br>05 | 17<br>69 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| mmu<br>0421<br>7 | Necroptosis                                                      | 1.918<br>719 | 3.51<br>E-06 | 2.84E-<br>05 | 35<br>93 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| mmu<br>0406<br>6 | HIF-1<br>signaling<br>pathway                                    | 1.910<br>794 | 1.06<br>E-05 | 7.28E-<br>05 | 22<br>65 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| mmu<br>0493<br>3 | AGE-RAGE<br>signaling<br>pathway in<br>diabetic<br>complications | 1.902<br>598 | 3.89<br>E-05 | 0.000<br>226 | 18<br>17 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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| mmu<br>0411<br>5 | p53<br>signaling<br>pathway        | 1.900<br>33  | 4.78<br>E-05 | 0.000<br>27  | 35<br>44 | Serpine1;Thbs1;Cdkn1a;Gadd45a;Gadd45b;Gadd45g;Apaf1;Tnfrsf10b;Gtse1;Bcl2l1;Fas;Sesn2;Chek1;Mdm2;Pmaip1;Serpib5;Ccng1;Ccne1;Shisa5;Zmat3;Bbc3;Siah1b;Bax;Trp53;Ccnd1;Casp8;Rchyl1;Sfn;Casp3;Atm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| mmu<br>0514<br>5 | Toxoplasmosis                      | 1.898<br>721 | 2.07<br>E-05 | 0.000<br>136 | 19<br>77 | Socs1;Nos2;Ifng;Il12b;Tlr2;Tnf;Cd40;Irgm1;Il10;Pik3r5;Bcl2l1;Il12a;Igtf;Myd88;Birc3;Nfkb1a;Hspa2;Stat3;Akt3;Irgm2;Stat1;Birc2;Nfkb1;Rela;Il10rb;Jak2;Nfkb1b;Tnfrsf1a;Alox5;Lamc2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| mmu<br>0522<br>2 | Small cell<br>lung cancer          | 1.884<br>307 | 3.06<br>E-05 | 0.000<br>192 | 30<br>16 | Ptgs2;Nos2;Cdkn1a;Gadd45a;Gadd45b;Gadd45g;Apaf1;Itga2;Traf1;Bcl2l1;Birc3;Nfkb1a;Col4a1;Myc;Akt3;Birc2;Polk;Nfkb1;Rela;Lamc2;Ccne1;Rxrg;Bax;Max;Lama3;Pik3cd;Ptk2;Trp53;Col4a2;Cdkn1a;Egr2;Scin;H4c1;H4c16;Gm8909;H2-Q6;Traf1;Jun;H2-Q4;Eif2ak2;Creb3l1;Irf7;H2bc3;Creb5;Nfkb2;H2bc7;Nfkb1a;Rbpjl;Stat3;Chek1;H2-M10.5;Rbl1;Gm7030;Nfkb1;Mdm2;Rela;Rel;Pmaip1;H2-M3;H4c4;H2-D1;Syk;Ccne1;Creb3l2;H2-T10;Srf;H2-T22;Gm11127;Creb3l4;Sp100;Atf4;H2-Q7;Pkm;Hdac9;H2bc12;H2-M9;Mapkapk2;Bax;Hdac1;Tbpl1;Ddx3x;Pik3cd;Gtf2b;Irf9;Ranbp1;Trp53;H2-T23;Ccnd1;Ccr4;Casp8;H2-K1;Jak3;C3;Bak1;Il6st;Casp3;Hdac4;H4c12;H2-M10.6;Ywhaz;Nras;Actn1;Crebbp;Ubr4;Creb3;Grb2;Snw1;Ep300;H2-T24;Jak1;Traf2;H2bc11;Pxn;Lyn;Pik3r3;Rbpj |
| mmu<br>0520<br>3 | Viral<br>carcinogenesis            | 1.877<br>408 | 2.28<br>E-07 | 2.58E-<br>06 | 45<br>00 | Krt13;Camp;Selp;Krt16;Icam1;Krt42;Il10;Ptafr;Krt15;Fpr2;Defb1;C1s2;Itgam;Fcgr4;Krt28;C5ar1;Fpr1;Fgg;Krt17;Fcgr3;Krt14;Selplg;Krt18;Defb4;Cfb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| mmu<br>0515<br>0 | Staphylococcus aureus<br>infection | 1.862<br>58  | 0.00<br>0115 | 0.000<br>625 | 25<br>49 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| mmu<br>0516<br>1 | Hepatitis B                                       | 1.859<br>283 | 5.92<br>E-06 | 4.41E-<br>05 | 35<br>01 | Il6;Tlr2;Tnf;Cdkn1a;Egr2;Apaf1;Fos;Jun;Tlr3;Ifih1;Creb3l1;Irf7;Myd88;Creb5;Fas;Nfkb1a;Ikbke;Rigi;Mmp9;Stat3;Myc;Akt3;Stat1;Tbk1;Elk1;Nfkb1;Rela;Jak2;Map2k1;Ccne1;Creb3l2;Creb3l4;Atf4;Ticam1;Tirap;Bax;Ddx3x;Pik3cd;Map2k4;Trp53;Map3k1;Stat2;Casp8;Mapk13;FasI;Jak3;Irak4;Prkcg;Casp3                                                                                                                                                             |
| mmu<br>0462<br>5 | C-type lectin<br>receptor<br>signaling<br>pathway | 1.849<br>468 | 6.38<br>E-05 | 0.000<br>354 | 33<br>40 | Ptgs2;Il6;Il12b;Clec4e;Tnf;Il1b;Egr2;Clec4d;Relb;Il10;Bcl3;Nlrp3;Jun;Il12a;Irf1;Nfkb2;Nfkb1a;Calml3;Map3k14;Plk3;Ikbke;Akt3;Stat1;Nfkb1;Mdm2;Rela;Il23a;Ccl17;Bcl10;Syk;Fcer1g;Ccl22;Il2;Mapkapk2;Cblb;Pik3cd;Irf9;Malt1;Stat2;Casp8;Mapk13                                                                                                                                                                                                         |
| mmu<br>0516<br>6 | Human T-<br>cell leukemia<br>virus 1<br>infection | 1.846<br>591 | 3.72<br>E-07 | 3.76E-<br>06 | 34<br>16 | Il1r2;Il6;Fos1;Adcy1;Tnf;Cdkn1a;Cd40;Egr2;Egr1;Mmp7;Il1r1;Gm8909;Fos;Ets2;Icam1;Relb;H2-Q6;Zfp36;Jun;H2-Q4;Bcl2l1;Creb3l1;Creb5;Nfkb2;Nfkb1a;Map3k14;Csf2;Lck;Myc;Akt3;Chek1;Il2ra;H2-M10.5;Msx2;Elk1;Gm7030;Nfkb1;Rela;Lta;H2-M3;Map2k1;Tnfrsf1a;Il15;H2-D1;Ccne1;Creb3l2;Adcy8;H2-T10;Srf;H2-T22;Gm11127;Creb3l4;Atf4;H2-Q7;Il2rg;H2-M9;Il2;Bax;Msx1;Slc2a1;Tbpl1;Pik3cd;Map2k4;Ranbp1;Trp53;Map3k1;H2-T23;Tspo;Spi1;Ccnd1;H2-K1;Pttg1;Jak3;Itgb2 |
| mmu<br>0493<br>6 | Alcoholic<br>liver disease                        | 1.792<br>143 | 3.32<br>E-05 | 0.000<br>205 | 35<br>01 | Cxcl2;Cxcl3;Cxcl1;Cd14;Il6;Il12b;Tnf;Il1b;Il17a;Il17ra;Il12a;Myd88;Fas;Nfkb1a;Map3k14;Ikbke;Tra2a;Akt3;Tbk1;Lbp;Nfkb1;Rela;C5ar1;Prkag3;Tnfrsf1a;Ripk1;Ticam1;Tirap;Ly96;Map2k4;Lpin1;Ccnd1;Casp8;Prkab1;Mapk13;FasI;C3;Tra2b;Irak4;C4a;Casp3                                                                                                                                                                                                       |
| mmu<br>0532<br>0 | Autoimmune<br>thyroid<br>disease                  | 1.791<br>08  | 0.00<br>1118 | 0.004<br>867 | 37<br>23 | Cd40;Cd28;Gzmb;Tpo;Gm8909;H2-Q6;Il10;H2-Q4;Cd80;Tg;Fas;H2-M10.5;Gm7030;H2-M3;H2-D1;Prf1;H2-T10;H2-T22;Gm11127;H2-Q7;H2-M9;Il2;H2-                                                                                                                                                                                                                                                                                                                   |

|                  |                                                  |              |              |              |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| mmu<br>0516<br>3 | Human<br>cytomegalovirus infection               | 1.781<br>722 | 1.31<br>E-06 | 1.13E-<br>05 | 22<br>32 | T23;H2-K1;Fasl;Cd86;Ctla4;H2-M10.6<br>Ptgs2;Ccl3;Il6;Ccl2;Ccl4;Adcy1;Tnf;Il<br>1b;Cdkn1a;Ccl5;Ccr1;Cxcr2;Il1r1;Gm8<br>909;H2-Q6;Ccl12;H2-<br>Q4;Tap1;Creb3l1;Creb5;Fas;Nfkb1a;Ca<br>lml3;Sting1;Stat3;Myc;Akt3;H2-<br>M10.5;Tbk1;Elk1;Tapbp;Gna13;Gm70<br>30;Itgb3;Gnb5;Nfkb1;Tap2;Mdm2;Rel<br>a;Ptger4;Il10rb;Gng12;H2-<br>M3;Map2k1;Tnfrsf1a;Cgas;H2-<br>D1;Creb3l2;Adcy8;H2-T10;H2-<br>T22;Gm11127;Creb3l4;Atf4;Ripk1;H2<br>-Q7<br>Camp;Tlr2;Selp;H4c1;H4c16;Casp4;H<br>3f3b;Mpo;H2bc3;Actg1;H2ac7;H2bc7;<br>Fpr2;Padi4;Akt3;Itgam;Fcgr4;Itgb3;Nf<br>kb1;Rela;Ctsg;Ncf1;C5ar1;Fpr1;Map2k<br>1;Fgg;Cybb;Fga;H4c4;Gsmdm;Fgb;Fcg<br>r3;Syk;H3f4;Selplg;Actb;Ncf4;Hdac9;<br>H2bc12;H2ac15;H2ac11;Tlr7;Clcn5;Ra<br>c2;H3c3;Hdac1;Ager;Pik3cd;Hat1;Fcgr<br>1;H3c2;Mapk13;H3c1;C3;H3c7;Itgb2;<br>Prkeg<br>Cxcl2;Cxcl3;Cxcl1;Ccl3;Ccl7;Ccl2;Cx<br>cl10;Cxcl5;Ccl4;Cxcl9;Adcy1;Ccl5;Cc<br>r1;Cxcr2;Ccl11;Cxcl11;Ppbp;Ccl12;Pik<br>3r5;Ccl19;Itk;Grk1;Cxcl15;Ccl8;Nfkb<br>1a;Ccr7;Ccl20;Stat3;Akt3;Xcl1;Stat1;Fg<br>r;Gnb5;Nfkb1;Rela;Hck;Gng12;Jak2;N<br>cf1;Map2k1;Nfkb1b;Ccl17<br>Il1r2;Sele;Ifng;Ccl2;Tnf;Il1b;Il1r1;Edn<br>1;Fos;Icam1;Ccl12;Nox1;Jun;Nppc;Act<br>g1;Gstp2;Il1a;Calml3;Thbd;Mmp9;Akt<br>3;Dusp1;Itgb3;Nfkb1;Rela;Vcam1;Ncf<br>1;Tnfrsf1a;Hmox1;Sdc4;Actb;Rac2;Cd<br>h5;Pik3cd;Ptk2;Map2k4;Klf2;Trp53;Su<br>mol;Bmpr2<br>Cd14;Runx1;Bcl2a1a;Pim1;Bcl2a1d;M<br>po;Bcl2a1b;Pml;Csrf2;Zbtb16;Stat3;My<br>c;Akt3;Itgam;Nfkb1;Rela;Map2k1 |
| mmu<br>0461<br>3 | Neutrophil<br>extracellular<br>trap<br>formation | 1.781<br>554 | 1.74<br>E-05 | 0.000<br>117 | 34<br>75 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0406<br>2 | Chemokine<br>signaling<br>pathway                | 1.779<br>377 | 9.2E<br>-06  | 6.51E-<br>05 | 17<br>85 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0541<br>8 | Fluid shear<br>stress and<br>atherosclerosis     | 1.761<br>543 | 3.91<br>E-05 | 0.000<br>226 | 32<br>15 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0522<br>1 | Acute<br>myeloid<br>leukemia                     | 1.751<br>396 | 0.00<br>0748 | 0.003<br>416 | 17<br>51 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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| mmu<br>0466<br>0 | T cell<br>receptor<br>signaling<br>pathway   | 1.738<br>842 | 0.00<br>0327 | 0.001<br>714 | 38<br>71 | Ifng;Tnf;Cd28;Fos;Il10;Jun;Map3k8;Itk;Nfkb1a;Map3k14;Csf2;Lck;Akt3;Nfkb1;Rela;Nfkbie;Nck1;Map2k1;Nfkbib;Lcp2;Rasgrp1;Bcl10;Pdcd1;Vav1;Il2;Cblb;Pik3cd;Malt1;Pak4;Mapk13;Ctla4;Nras;Prkcq;Pak2                                               |
| mmu<br>0305<br>0 | Proteasome                                   | 1.702<br>652 | 0.00<br>3374 | 0.012<br>901 | 76<br>80 | Ifng;Psmb9;Psmb10;Psmb8;Psmc2;Psmc2b;Psmc5;Psmc1;Psmc7;Psmc1;Psmc1;Psmc7;Psmc2;Psmc2;Psmc4;Pomp;Psmc14;Psmc3;Psmc4;Adrm1;Psmc8;Psmc6;Psmc3;Psmc4;Psmc6;Psmc12;Psmc2;Psmc5;Psmc3;Sem1;Psmc6;Psmc6;Psmc4;Psmc2;Psmc3;Psmc7;Psmc1;Psmc5;Psmc13 |
| mmu<br>0461<br>0 | Complement<br>and<br>coagulation<br>cascades | 1.700<br>701 | 0.00<br>0865 | 0.003<br>884 | 41<br>36 | Serpine1;A2m;Plaur;Procr;Cd55b;Serpina5;Thbd;C1s2;Itgam;Serpina2;Bdkrb1;C5ar1;Fgg;Fga;Fgb;F2rl2;Cfb;Cpb2;Vtn;C3;Itgb2;C4a;Serpin1;Plat;C2;Clu;Kng2;C4bp                                                                                     |
| mmu<br>0522<br>0 | Chronic<br>myeloid<br>leukemia               | 1.660<br>822 | 0.00<br>207  | 0.008<br>411 | 35<br>62 | Cdkn1a;Gadd45a;Gadd45b;Gadd45g;Runx1;Bcl2l1;Nfkb1a;Gab2;Myc;Akt3;Pola;Nfkb1;Mdm2;Rela;Map2k1;Bax;Hdac1;Pik3cd;Trp53;Ccn1;Crkl;Bak1;Shc4                                                                                                     |
| mmu<br>0464<br>0 | Hematopoietic<br>cell<br>lineage             | 1.641<br>511 | 0.00<br>208  | 0.008<br>411 | 21<br>54 | Csf3;Il1r2;Cd14;Il6;Tnf;Il1b;Itga2;Il1r1;Cd55b;Csf3r;Cd33;Il1a;Csf2;Gp9;Il7;Gypa;Itgam;Csf1;Il2ra;Epo;Itgb3;Il11;Il11ra2;Cd44;Il3ra                                                                                                         |
| mmu<br>0497<br>2 | Pancreatic<br>secretion                      | 1.623<br>074 | 0.00<br>2181 | 0.008<br>572 | 28<br>27 | Adcy1;Prss3;Bst1;Pla2g1b;Try5;Cela3b;Amy2a5;Cttrb1;Try4;Pnlip;Prss2;Cpa2;Cpa1;Cpb1;Ctrl;Pnliprp1;Cel;Cela2a;Pnliprp2;2210010C04Rik;Pla2g10;Amy2a3;Amy2a2;Try10;Gm5771;Adcy8;Clca2;Atp2a2;Atp1b3;Rap1b;Cd38;Cpb2                             |

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| mmu<br>0520<br>6 | MicroRNAs<br>in cancer                       | 1.622<br>054 | 0.00<br>0532 | 0.002<br>688 | 37<br>78 | Socs1;Ptgs2;Trp63;Thbs1;Cdkn1a;Igf2bp1;Pim1;Irs2;Slc7a1;Ddit4;Ezr;Efna1;Efna3;Tnn;Rassf1;Mmp9;Stat3;Myc;Tnnr;Itgb3;Nfkb1;Mdm2;Prkce;Serpib5;St14;Cyp1b1;Map2k1;Ccng1;Timp3;Hmox1;Tnc;Ccne1;Gls;Marcks;Cd44;Cyp24a1;Hdac1;Mcl1;Abcb1b;Abcc1;Spry2;Pik3cd;Fscn1;Trp53;Pak4;Ccnd1;Bmpr2;Crkl;Bak1;Zeb1;Prkcg;Casp3;Atm;Shc4;Hdac4;Trim71;Bcl2l11;Nras  |
| mmu<br>0493<br>2 | Non-<br>alcoholic<br>fatty liver<br>disease  | 1.618<br>413 | 0.00<br>0684 | 0.003<br>229 | 38<br>62 | Il6;Socs3;Tnf;Il1b;Fos;Lepr;Irs2;Jun;Fas;Il1a;Akt3;Ins1;Casp7;Lep;Nfkb1;Rela;Prkag3;Tnfrsf1a;Xbp1;Atf4;Bax;Pik3cd;Mlxip;Casp8;Prkab1;Mapk13;Fas;Ddit3;Casp3;Eif2ak3;Insr;Bcl2l11;Il6ra;Map3k5                                                                                                                                                       |
| mmu<br>0461<br>2 | Antigen<br>processing<br>and<br>presentation | 1.617<br>699 | 0.00<br>417  | 0.015<br>527 | 34<br>31 | Ifng;Tnf;Gm8909;H2-Q6;H2-Q4;Tap1;Hspa2;H2-M10.5;Tapbp;Gm7030;Tap2;H2-M3;H2-D1;H2-T10;H2-T22;Gm11127;H2-Q7;H2-M9;Psme2;Psme2b;Hspa5;H2-T23;Hspa8;Psme1;H2-K1;Nfya;Hsp90aa1                                                                                                                                                                           |
| mmu<br>0414<br>5 | Phagosome                                    | 1.617<br>292 | 0.00<br>0589 | 0.002<br>925 | 36<br>16 | Cd14;Olr1;Atp6v0a4;Tlr2;Thbs1;Itga2;Gm8909;Mpo;H2-Q6;H2-Q4;Tap1;Tubb1;Tubb6;Actg1;Itgam;Fcgr4;Tcirg1;Tlr6;Stx18;H2-M10.5;Gm7030;Itgb3;Tap2;H2-M3;Ncf1;Cybb;Atp6v0a1;Sftpa1;H2-D1;Fcgr3;H2-T10;H2-T22;Gm11127;Sec61g;Actb;H2-Q7;Ncf4;H2-M9;Tuba3a;Tubb3;Tuba8;Sftpd;Fcgr1;Sec22b;Stx12;H2-T23;H2-K1;Rab5c;Rab7;Atp6v1g1;C3;Itgb2;Sec61a1;Thbs4;Rab5a |

|                  |                                        |              |              |              |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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| mmu<br>0541<br>6 | Viral<br>myocarditis                   | 1.601<br>538 | 0.00<br>5016 | 0.017<br>968 | 38<br>48 | Cd40;Cd28;Cd55b;Gm8909;Icam1;H2-<br>Q6;H2-Q4;Cd80;Actg1;H2-<br>M10.5;Gm7030;H2-M3;H2-<br>D1;Prf1;H2-T10;H2-<br>T22;Gm11127;Actb;H2-Q7;H2-<br>M9;Rac2;H2-T23;Ccnd1;Casp8;H2-<br>K1;Cd86;Itgb2;Casp3;Sgcb;Eif4g3;H2-<br>M10.6;Abl2<br>Il6;Ccl2;Tnf;Il1b;Mefv;Fos;Il10;Ccl12;<br>Nlrp3;Jun;Myd88;Actg1;Nfkb1a;Lck;A<br>kt3;Tbk1;Nfkb1;Rela;Map2k1;Lcp2;Fc<br>gr3;Rps6ka3;Actb;Ticam1;Pip5k1b;Pip<br>5k1a;Rac2;Vav1;Il2;Pik3cd;Wasl;Ptk2;<br>Map2k4;Arpc1b;Itga4;Crkl;Mapk13;Ira<br>k4;Wipf2;Casp1;Dock1;Fn1;Traf2;Pxn;<br>Arf6;Pik3r3;Traf6;Skap2;Arpc3;Wasf2<br>;Il18;Pkn2;Actr3<br>Prss3;Col9a3;Col20a1;Slc1a1;Try5;Cel<br>a3b;Ctrb1;Try4;Prss2;Slc9a3;Cpa2;Cpa<br>1;Slc6a19;Cpb1;Ctrl;Col25a1;Cela2a;C<br>ol4a1;Col22a1;2210010C04Rik;Col6a4<br>;Slc38a2;Try10;Col9a2;Gm5771;Col11<br>a2;Slc36a3;Atp1b3;Col17a1;Col7a1<br>Serpine1;Il6;Cdkn1a;Gadd45a;Gadd45<br>b;Gadd45g;Gm8909;H2-Q6;H2-<br>Q4;Zfp361l1;Il1a;Calml3;Myc;Akt3;Ch<br>ek1;H2-<br>M10.5;Rbl1;Gm7030;Nfkb1;Mdm2;Re<br>la;H2-M3;Map2k1;Hipk4;H2-<br>D1;Ccne1;H2-T10;H2-<br>T22;Gm11127;H2-Q7;H2-<br>M9;Mybl2;Mapkapk2;Zfp3612;Pik3cd;<br>Trp53;H2-T23;Ccnd1;H2-<br>K1;Mapk13;Atm;Fbxw11;H2-<br>M10.6;Nras;Hipk3;E2f4;Lin52<br>Cdkn1a;Gadd45a;Gadd45b;Gadd45g;<br>Myc;Polk;Map2k1;Ccde6;Rxrg;Bax;Tr<br>p53;Tpm3;Ccnd1;Bak1;Tfg;Nras<br>Mx1;Samhd1;Mx2;Trim30d;Apobec3;<br>Trim12c;Bicd1;Chmp4b;Ell;Ell2;Bst2;<br>Aff4;Trim5;Ranbp2;Map1s;Ccnt1;Seri<br>nc3;Mllt3;Nelfe;Crebbp;Ep300;Nup15 |
| mmu<br>0513<br>5 | Yersinia<br>infection                  | 1.587<br>574 | 0.00<br>161  | 0.006<br>802 | 46<br>37 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| mmu<br>0497<br>4 | Protein<br>digestion and<br>absorption | 1.575<br>452 | 0.00<br>4297 | 0.015<br>793 | 26<br>59 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| mmu<br>0421<br>8 | Cellular<br>senescence                 | 1.570<br>079 | 0.00<br>1087 | 0.004<br>805 | 38<br>82 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| mmu<br>0521<br>6 | Thyroid<br>cancer                      | 1.569<br>027 | 0.01<br>6827 | 0.049<br>093 | 37<br>78 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| mmu<br>0325<br>0 | Viral life<br>cycle - HIV-<br>1        | 1.542<br>789 | 0.01<br>3305 | 0.041<br>836 | 45<br>61 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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|                  |                                                |              |              |              |          | 3;Nelfa;Supt5;Cpsf7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| mmu<br>0513<br>2 | Salmonella<br>infection                        | 1.535<br>902 | 0.00<br>0684 | 0.003<br>229 | 36<br>79 | Cd14;Il6;Tlr2;Tnf;Il1b;Tnfrsf10b;Casp4;Fos;Mkl1;Ripk2;Nlrp3;Jun;Tubb1;Tubb6;Myd88;Birc3;Tnfsf10;Actg1;Arhgef26;Nfkb1a;Rhob;Myc;Akt3;Tlr6;Casp7;Birc2;Nfkb1;Rela;Rhoj;Dync2li1;Map2k1;Tnfrsf1a;Gsdmd;Kif5b;Nod1;Actb;Plekhl1;Ripk1;BC048507;Tuba3a;Tubb3;Tirap;Tuba8;Naip2;Bax;Pik3c2g;Pik3c2a;Ly96;Pik3cd;Wasl;Map2k4;Snx18;Arpc1b;Acbd3;Casp8;Cyth1;Mapk13;Rab5c;Rab7;Bak1;Hsp90aa1;Irak4;Ripk3;Casp3;Anxa2;Rab5a;Txn1Tlr2;Tnf;Samhd1;Gm8909;Fos;H2-Q6;Trim30d;Jun;H2-Q4;Tap1;Bcl2l1;Myd88;Fas;Nfkb1a;Calml3;Apobec3;Sting1;Akt3;Chk1;Trim12c;Tnfrsf1b;H2-M10.5;Tbk1;Tapbp;Gm7030;Gnb5;Nfkb1;Tap2;Rela;Gng12;H2-M3;Map2k1;Tnfrsf1a;Cgas;H2-D1;H2-T10;H2-T22;Gm11127;Ripk1;H2-Q7;H2-M9;Bst2;Rac2;Bax;Trim5;Pik3cd;Ptk2;Gng4;H2-T23;Pak4;Casp8;Crkl;H2-K1;Mapk13;Fasl;Bak1;Irak4;Prkcg;Casp3;Atm;Fbxw11 |
| mmu<br>0517<br>0 | Human<br>immunodeficiency virus 1<br>infection | 1.522<br>415 | 0.00<br>1498 | 0.006<br>424 | 35<br>79 | Or2v1;Or2t26;Or2y1f;Or1o4;Or2o1;Or6k6;Or10j5;Or10v5;Or5m5;Or10aa3;Calml3;Or8b53;Or4a78;Or2v2;Or2ag13;Or9a7;Or52h7;Or13a28;Rgs2;Or10aa1;Or2h1b;Or9s14;Or8j3c;Pde1b;Or2y1g;Or6s1;Or55b10;Or2y17;Or10a3;Or13a27;Or9i1b;Or8b12;Or52n4;Or52b3;Or4a77;Or12d12;Or2r3;Or4g16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0474<br>0 | Olfactory<br>transduction                      | 1.512<br>087 | 0.00<br>8024 | 0.028<br>034 | 27<br>06 | Cdkn1a;Ralgds;Gadd45a;Gadd45b;Gadd45g;Bcl2l1;Stat3;Akt3;Stat1;Polk;Nfkb1;Rela;Map2k1;Pld1;Rac2;Bax;Pik3cd;Trp53;Ccnd1;Bak1;Ralb                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| mmu<br>0521<br>2 | Pancreatic<br>cancer                           | 1.507<br>606 | 0.01<br>3129 | 0.041<br>746 | 34<br>41 | Ifng;Tnf;Cd40;Cd28;H4c1;H4c16;H3f3b;Il10;Cd80;H2bc3;H2ac7;H2bc7;C1s2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| mmu<br>0532      | Systemic<br>lupus                              | 1.506<br>79  | 0.00<br>8676 | 0.029<br>942 | 34<br>68 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |



|          |                                           |          |          |          |      |                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 2        | erythematosus                             |          |          |          |      | ;Fcgr4;Trim21;Ctsg;H4c4;Fcgr3;H3f4;H2bc12;H2ac15;H2ac11;H3c3;Fcgr1;H3c2;H3c1;Cd86;C3;H3c7;Snrpd1;C4aIfng;Il6;Ccl2;Il12b;Socs3;Tlr2;Tnf;Il1b;Ccl5;Apaf1;Zfp819;Gm8909;H2-Q6;Oas1a;Ccl12;Oas1g;Oas3;H2-Q4;Tap1;Eif2ak2;Tlr3;Bcl2l1;Nxf2;Il12a;Ifih1;Irf7;Myd88;Birc3;Oas2;Zfp459;Daxx;Pml;Fas;Nfkb1a;Tnfsf14;Ikbbke;Rigi;Sting1;Akt3;Stat1;Oas1b;Birc2;H2-                                                   |
| mmu05168 | Herpes simplex virus 1 infection          | 1.505786 | 0.00019  | 0.001013 | 3612 | M10.5;Tbk1;Tapbp;Gm7030;Itgb3;Nfkb1;Tap2;Rela;Lta;Jak2;H2-M3;Zfp811;Gm10778;Tnfrsf1a;Cgas;H2-D1;Syk;Zfp949;H2-T10;H2-T22;Gm11127;Zfp941;Sp100;Zfp473;H2-Q7;Rsl1;Ticam1;H2-M9;Zfp92;Bst2;Zfp9;Srsf3;Zfp382;Bax;Rnasel;Alyref;Pik3cd;Zfp599;Zfp456;Irf9;Trp53;Zfp641;H2-T23;Zfp689;Stat2;Casp8;Zfp719;Zfp1;Zfp612;Ifnar2;H2-K1;Fasl;C3;Bak1;BC024063;Irak4;Zfp948;Zfp788;Casp3;Gm45871;Eif2ak3;Zfp111;Pou2f2 |
| mmu04650 | Natural killer cell mediated cytotoxicity | 1.492914 | 0.011029 | 0.035874 | 3562 | Ifng;Tnf;Tnfrsf10b;Gzmb;Icam1;Tnfsf10;Fas;Cs2;Lck;Fcgr4;Map2k1;Lcp2;Cd244a;H2-D1;Prf1;Syk;Klra3;Fcer1g;Rac2;Vav1;Pik3cd;Cd48;H2-T23;Ifnar2;H2-K1;Fasl;Itgb2;Prkcg;Casp3;Shc4                                                                                                                                                                                                                               |
| mmu05215 | Prostate cancer                           | 1.489844 | 0.011724 | 0.037705 | 4091 | Il1r2;Cdkn1a;Mmp3;Creb3l1;Creb5;Gstp2;Insrr;Nfkb1a;Mmp9;Akt3;Ins1;Nfkb1;Mdm2;Rela;Map2k1;Pdgfc;Ccne1;Creb3l2;Creb3l4;Atf4;Pik3cd;Trp53;Ccnd1;Hsp90aa1;Zeb1;Tmprss2;Nras;Crebbp;Plat;Creb3;Grb2;Ep300                                                                                                                                                                                                       |
| mmu05210 | Colorectal cancer                         | 1.481211 | 0.015661 | 0.04715  | 3778 | Cdkn1a;Ralgs;Gadd45a;Gadd45b;Gadd45g;Ereg;Fos;Jun;Areg;Myc;Akt3;Polk;Pmaip1;Map2k1;Msh2;Bbc3;Rac2;Bax;Pik3cd;Trp53;Ccnd1;Bak1;Ralb;Casp3;Bcl2l1;Nras                                                                                                                                                                                                                                                       |

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| mmu<br>0492<br>8 | Parathyroid<br>hormone<br>synthesis,<br>secretion and<br>action | 1.451<br>493 | 0.01<br>7183 | 0.049<br>619 | 26<br>24 | Fgf23;Mmp13;Adcy1;Cdkn1a;Egr1;Pd<br>e4b;Mmp25;Cyp27b1;Fos;Mmp24;Cas<br>r;Vdr;Creb3l1;Creb5;Hbegf;Slc9a3r1;G<br>na13;Map2k1;Jund;Creb3l2;Adcy8;Cre<br>b3l4;Atf4;Cyp24a1;Bglap;Pld1;Rxrg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| mmu<br>0491<br>5 | Estrogen<br>signaling<br>pathway                                | 1.446<br>306 | 0.01<br>5305 | 0.047<br>078 | 22<br>24 | Krt13;Adcy1;Krt16;Fos;Krt42;Jun;Cre<br>b3l1;Krt15;Fkbp5;Creb5;Hbegf;Calml3<br>;Hspa2;Mmp9;Akt3;Krt28;Map2k1;Krt<br>17;Creb3l2;Adcy8;Krt14;Creb3l4;Atf4;<br>Krt18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| mmu<br>0516<br>5 | Human<br>papillomavir<br>us infection                           | 1.354<br>999 | 0.00<br>8984 | 0.030<br>631 | 33<br>98 | Ptgs2;Mx1;Atp6v0a4;Tnf;Thbs1;Cdkn<br>1a;Isg15;Itga2;Oasl2;Oasl1;Col9a3;Mx<br>2;Gm8909;H2-Q6;Hes7;H2-<br>Q4;Eif2ak2;Tlr3;Creb3l1;Irf1;Creb5;Fa<br>s;Col4a1;Ikbke;Tnn;Rbpjl;Col6a4;Akt3<br>;Slc9a3r1;Tcirl1;Stat1;Tnr;H2-<br>M10.5;Rbl1;Tbk1;Gm7030;Itgb3;Nfkb<br>1;Mdm2;Rela;Col9a2;Ptger4;H2-<br>M3;Map2k1;Tnfrsf1a;Atp6v0a1;H2-<br>D1;Tnc;Lamc2;Ccn1;Creb3l2;H2-<br>T10;H2-T22;Gm11127;Creb3l4;H2-<br>Q7;Pkm;Ticam1;Wnt8a;H2-<br>M9;Bax;Hdac1;Tbpl1;Lama3;Pik3cd;P<br>tk2;Ppp2cb;Ppp2r2a;Irf9;Trp53;Col4a2<br>;H2-<br>T23;Stat2;Itga4;Ccnd1;Casp8;Ifnar2;H<br>2-K1;Itgb8;Vtn;Fas;Atp6v1g1;Bak1<br>Fgf23;Cd14;Tnf;Il1b;Gadd45a;Gadd45<br>b;Gadd45g;Dusp2;Dusp8;Il1r1;Ereg;Fo<br>s;Map3k6;Relb;Angpt2;Jun;Map3k8;D<br>usp5;Pgf;Myd88;Nfkb2;Daxx;Fas;Efna<br>1;Il1a;Hspa2;Map3k14;Efna3;Areg;My<br>c;Akt3;Nr4a1;Csfl;Angpt1;Ins1;Dusp1<br>;Rasgrf1;Elk1;Nfkb1;Rela;Rapgef2;Gn<br>g12;Cacna1b;Map2k1;Pdgfc;Pla2g4c;T<br>nfrsf1a;Rasgrp1;Ntf5;Map4k3;Dusp16;<br>Jund;Map4k4;Ngf;Rps6ka3;Srf;Dusp10<br>;Atf4;Igf2 |

|                  |                                  |                  |              |              |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| mmu<br>0402<br>0 | Calcium<br>signaling<br>pathway  | -<br>1.310<br>06 | 0.01<br>6704 | 0.049<br>093 | 39<br>14 | Gna11;Mylk3;Ltb4r2;Fgf9;Camk4;Cacna1e;Cacna1a;Orai1;Prkaca;Mylk;Plcb3;Itpr3;Camk1;Ptk2b;Adra1b;Camk1g;Slc25a31;Cacna1d;Calm5;Tacr2;Fgf18;Adcy3;Adcy7;Fgf6;Fgf1;Erb4;P2rx2;Met;Pdgfd;Phka2;Pdgfrb;Gna15;Sphk2;Adra1d;Adcy9;Slc8a3;Ntrk3;Bdkrb2;Ftl4;Tpcn1;Chrm2;Slc8a1;Cacna1h;Itpk;Cckar;Prkcb;Vegfd;Atp2b2;Plcg1;Adra1a;Ptger3;Agtr1a;Cacna1g;Plcb2;Cysltr1;Fgfr3;Fgf21;Adrb3;Pde1c;Chrm1;Ptgfr;Cacna1i;Cacna1f;Erb3;P2rx6;Calml4;Tbxa2r;Kdr;Adrb1 |
| mmu<br>0436<br>0 | Axon<br>guidance                 | -<br>1.370<br>43 | 0.01<br>0921 | 0.035<br>874 | 33<br>91 | Plxnb2;Ptch1;Bmp7;Wnt5b;Rhod;Pik3r2;Mapk3;Ephb6;Smo;Neol;Limk1;Ablim2;Unc5b;Sema3d;Ntng1;Dpysl5;Nfatc2;Met;L1cam;Efnb2;Pard6b;Sema4g;Sema3b;Plxna3;Ntn3;Unc5a;Epha7;Epha1;Dpysl2;Efnb1;Rgs3;Ephb1;Wnt4;Ngef;Plxnc1;Plcg1;Efn4;Srgap3;Lrrc4c;Cxcl12;Shh;Ephb4;Prkcz;Ephb3;Sema3g;Ntn4;Sema5b;Slit1;Sema6c                                                                                                                                            |
| mmu<br>0402<br>2 | cGMP-PKG<br>signaling<br>pathway | -<br>1.384<br>64 | 0.00<br>9963 | 0.033<br>173 | 34<br>53 | Npr2;Mylk;Plcb3;Itpr3;Adra1b;Mapk3;Irs1;Gtf2ird1;Mef2c;Slc25a31;Cacna1d;Calm5;Oprd1;Adcy3;Adcy7;Gata4;Nfatc2;Irag1;Atp1b4;Pde3b;Gucyl1a2;Pde5a;Atp1a4;Adra1d;Fxyd2;Adcy9;Slc8a3;Pde2a;Bdkrb2;Adcy5;Kcnu1;Gtf2i;Adora1;Gucyl1b1;Slc8a1;Atp2b2;Cngb1;Gna12;Adra1a;Agtr1a;Npr1;Plcb2;Adcy6;Gucyl1a1;Adrb3;Irs3;Cacna1f;Calml4;Adrb1;Adra2b                                                                                                             |
| mmu<br>0493<br>4 | Cushing<br>syndrome              | -<br>1.434<br>25 | 0.00<br>576  | 0.020<br>376 | 34<br>36 | Prkaca;Plcb3;Wnt11;Itpr3;Lef1;Wnt5b;Mapk3;Cdk6;Mc2r;Pde8a;Pde8b;Cacna1d;Fzd8;Hsd3b3;Adcy3;Adcy7;Tcf7;Fzd4;E2f1;Hsd3b1;Adcy9;Adcy5;Cdkn2c;Wnt10a;Kcnk3;Cacna1h;Wnt4;Wnt6;Fzd2;Agtr1a;Cacna1g;Kcnk2;Plcb2;Tcf711;Axin2;Adcy6;Wnt9a;Hsd3b5;Apc2;Wnt9b;Cacna1i;Cacna1f;Hsd3b2;Wnt2                                                                                                                                                                      |

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| mmu<br>0098<br>0 | Metabolism<br>of<br>xenobiotics<br>by<br>cytochrome<br>P450 | -<br>1.479<br>37 | 0.01<br>6029 | 0.047<br>748 | 64<br>73 | Ugt1a1;Mgst2;Ugt1a10;Ugt2b1;Ugt2a3<br>;Ugt2b36;Ephx1;Akr7a5;Ugt2b5;Adh1;<br>Ugt2b34;Cyp2e1;Cbr1;Adh7;Gstm4;Su<br>lt2a8;Cbr3;Aldh3b2;Gstt2;Cyp1a1;Hpg<br>ds;Sult2a7;Gsto2;Adh4;Aldh3b3;Ugt2b<br>35;Dhhdh;Cyp2s1;Cbr2;Ugt1a2;Ugt1a6a                                                                                                                                                                                                            |
| mmu<br>0472<br>3 | Retrograde<br>endocannabi<br>noid<br>signaling              | -<br>1.489<br>54 | 0.00<br>4043 | 0.015<br>256 | 34<br>36 | Prkaca;Plcb3;Mapk12;Faah;Itpr3;Mapk<br>3;Gng2;Cacna1d;Daglb;Gng11;Adcy3;<br>Adcy7;Kcnj9;Dagla;Gnao1;Adcy9;Adc<br>y5;Gnb3;Mgll;Prkcb;Slc17a8;Gng7;Ma<br>pk10;Gng8;Plcb2;Adcy6;Ndufa4l2;Cnr<br>1;Cacna1f;Kcnj5;Gabrq;Gria1                                                                                                                                                                                                                      |
| mmu<br>0474<br>2 | Taste<br>transduction                                       | -<br>1.532<br>77 | 0.01<br>5624 | 0.047<br>15  | 36<br>49 | Cacna1a;Prkaca;Plcb3;Itpr3;Scn3a;Scn<br>n1a;P2rx2;Tas1r1;Gnb3;Asic2;Tas2r13<br>8;Tas1r2;Plcb2;Scn9a;Adcy6;Pde1c;P2<br>ry1;Htr3a;P2ry4;Kcnk5                                                                                                                                                                                                                                                                                                   |
| mmu<br>0497<br>6 | Bile<br>secretion                                           | -<br>1.541<br>98 | 0.00<br>4726 | 0.017<br>146 | 41<br>94 | Atp1a3;Atp1b2;Slco1b2;Sult2a8;Aqp1;<br>Abcg5;Aqp4;Abcb4;Prkaca;Slc10a1;Sl<br>co1a4;Adcy3;Adcy7;Sct;Sult2a7;Atp1b<br>4;Atp1a4;Abcg8;Fxyd2;Nr1h4;Adcy9;<br>Adcy5;Gm6614;Slc22a8;Kcnn2;Ugt2b<br>35;Aqp8;Aqp9;Acnat1;Abcc2;Adcy6;U<br>gt1a2;Nr0b2;Ugt1a6a;Cyp7a1                                                                                                                                                                                  |
| mmu<br>0434<br>0 | Hedgehog<br>signaling<br>pathway                            | -<br>1.565<br>9  | 0.00<br>957  | 0.032<br>241 | 34<br>36 | Prkaca;Ptch1;Smo;Gli2;Iqce;Lrp2;Arrb<br>1;Arrb2;Dhh;Ptch2;Kif7;Shh;Evc;Gas1<br>;Ihh                                                                                                                                                                                                                                                                                                                                                           |
| mmu<br>0083<br>0 | Retinol<br>metabolism                                       | -<br>1.595<br>74 | 0.00<br>3126 | 0.012<br>117 | 64<br>73 | Ugt1a1;Aldh1a7;Cyp4a12b;Ugt1a10;U<br>gt2b1;Dhrs4;Retsat;Ugt2a3;Ugt2b36;C<br>yp2c68;Cyp4a12a;Cyp2c50;Cyp2c38;R<br>dh16f2;Cyp2c54;Cyp2c55;Cyp2c37;Ug<br>t2b5;Adh1;Cyp2c23;Ugt2b34;Rdh7;Cy<br>p2c39;Adh7;Cyp2c40;Rdh11;Cyp2b9;<br>Cyp4a14;Cyp4a10;Rdh9;Cyp2a5;Rdh1<br>6;Hsd17b6;Cyp3a25;Aox3;Cyp1a1;Ao<br>x1;Dhrs3;Cyp3a16;Cyp4a31;Cyp26a1;<br>Cyp4a32;Cyp26c1;Adh4;Ugt2b35;Awa<br>t2;Cyp2c65;Lrat;Rdh1;Cyp2s1;Cyp2a4<br>;Ugt1a2;Ugt1a6a;Cyp26b1 |

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| mmu<br>0492<br>5 | Aldosterone<br>synthesis and<br>secretion                                 | -<br>1.693<br>71 | 0.00<br>0667 | 0.003<br>229 | 41<br>99 | Creb3l3;Atp1a3;Nr4a2;Atp1b2;Lipe;G<br>na11;Camk4;Orai1;Prkaca;Plcb3;Itpr3;<br>Camk1;Mc2r;Camk1g;Cacna1d;Daglb;<br>Calm5;Hsd3b3;Adcy3;Adcy7;Atp1b4;<br>Dagla;Atp1a4;Hsd3b1;Adcy9;Pde2a;A<br>dcy5;Kcnk3;Cacna1h;Prkcb;Atp2b2;A<br>gtr1a;Npr1;Prkd3;Cacna1g;Plcb2;Adcy<br>6;Hsd3b5;Cacna1i;Cacna1f;Kcnj5;Hsd<br>3b2;Calml4 |
| mmu<br>0496<br>1 | Endocrine<br>and other<br>factor-<br>regulated<br>calcium<br>reabsorption | -<br>1.707<br>73 | 0.00<br>214  | 0.008<br>531 | 42<br>21 | Klk1b27;Atp1a3;Dnm3;Atp1b2;Prkaca<br>;Plcb3;Ap2a2;Dnm1;Atp1b4;Atp1a4;F<br>xyd2;Adcy9;Slc8a3;Bdkrb2;Slc8a1;Prk<br>cb;Atp2b2;Calb1;Plcb2;Adcy6;Kl;Pth1<br>r                                                                                                                                                               |
| mmu<br>0492<br>9 | GnRH<br>secretion                                                         | -<br>1.710<br>71 | 0.00<br>1769 | 0.007<br>362 | 39<br>14 | Gna11;Hcn2;Plcb3;Itpr3;Pik3r2;Mapk3<br>;Cacna1d;Kcnj9;Kiss1;Kiss1r;Arrb1;Ar<br>rb2;Kcnn2;Kcnn1;Cacna1h;Prkcb;Hcn<br>3;Cacna1g;Plcb2;Cacna1i;Cacna1f;Gpe<br>r1;Kcnj5                                                                                                                                                     |
| mmu<br>0471<br>3 | Circadian<br>entrainment                                                  | -<br>1.754<br>76 | 0.00<br>041  | 0.002<br>107 | 34<br>36 | Prkaca;Plcb3;Itpr3;Mapk3;Adcy10;Gn<br>g2;Cacna1d;Calm5;Gng11;Adcy3;Adc<br>y7;Kcnj9;Gucyl1a2;Gnao1;Adcy9;Adcy<br>5;Adcyap1r1;Gnb3;Gucyl1b1;Cacna1h;<br>Prkcb;Gng7;Per2;Cacna1g;Gng8;Plcb2<br>;Adcy6;Gucyl1a1;Cacna1i;Per3;Grin2b;<br>Kcnj5;Gria1;Calml4;Mtnr1a                                                           |
| mmu<br>0007<br>1 | Fatty acid<br>degradation                                                 | -<br>1.804<br>38 | 0.00<br>0744 | 0.003<br>416 | 68<br>43 | Adh5;Gcdh;Hadha;Echs1;Acat2;Acsl5;<br>Acads;Acadm;Acat1;Acaa2;Cyp4a12b;<br>Cpt2;Eci1;Cyp4a12a;Hadhb;Adh1;Ald<br>h1b1;Ehhadh;Acaa1b;Hadh;Acox3;Ad<br>h7;Cyp4a14;Cpt1c;Eci3;Acsl6;Cyp4a1<br>0;Aldh3a2;Acsl3;Cyp4a31;Acsgl1;Cyp<br>4a32;Adh4;Acsl1;Cyp2u1                                                                  |

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Supplementary Table 4. The GO Enrichment of differentially expressed mRNAs in the ileum of CON and LPS group

| GO_level_1         | GO         | Description                       | DiffRatio       | BgRatio           | P-value  | Adjusted P-value |
|--------------------|------------|-----------------------------------|-----------------|-------------------|----------|------------------|
| Biological process | GO:0032782 | bile acid secretion               | 5/2575<br>0.19% | 14/28943<br>0.05% | 0.005604 | 0.01977643       |
| Biological process | GO:0008206 | bile acid metabolic process       | 9/2575<br>0.35% | 43/28943<br>0.15% | 0.012056 | 0.03637893       |
| Biological process | GO:0015721 | bile acid and bile salt transport | 7/2575<br>0.27% | 31/28943<br>0.11% | 0.017118 | 0.04808715       |

Supplementary Table 5. The relative abundance of microbiota at genus levels between CON and LPS.

| Genus                     | CON( mean) | LPS( mean) | CO N(se ) | LPS (se) | multiGr oup(p) | multiGroup(p -corrected) | LPS::C ON(p) |
|---------------------------|------------|------------|-----------|----------|----------------|--------------------------|--------------|
| Muribaculum               | 0.003      | 0.013      | 0.001     | 0.002    | 0.001          | 0.291                    | 0.001        |
| Parasutterella            | 0.001      | 0.008      | 0.000     | 0.002    | 0.001          | 0.291                    | 0.001        |
| Harryflintia              | 0.000      | 0.001      | 0.000     | 0.000    | 0.003          | 0.373                    | 0.003        |
| Ligilactobacillus         | 0.019      | 0.003      | 0.004     | 0.001    | 0.006          | 0.447                    | 0.006        |
| Oscillibacter             | 0.005      | 0.016      | 0.001     | 0.003    | 0.009          | 0.447                    | 0.009        |
| A2                        | 0.001      | 0.007      | 0.000     | 0.002    | 0.010          | 0.447                    | 0.010        |
| Gemella                   | 0.000      | 0.000      | 0.000     | 0.000    | 0.015          | 0.447                    | 0.015        |
| Streptococcus             | 0.000      | 0.000      | 0.000     | 0.000    | 0.020          | 0.447                    | 0.020        |
| Defluviitaleaceae_UCG_011 | 0.000      | 0.000      | 0.000     | 0.000    | 0.022          | 0.447                    | 0.022        |
| Candidatus_Stoquefichus   | 0.000      | 0.000      | 0.000     | 0.000    | 0.023          | 0.447                    | 0.023        |
| Pantoea                   | 0.000      | 0.000      | 0.000     | 0.000    | 0.023          | 0.447                    | 0.023        |
| Bilophila                 | 0.001      | 0.007      | 0.000     | 0.002    | 0.023          | 0.447                    | 0.023        |
| Faecalibaculum            | 0.002      | 0.019      | 0.000     | 0.000    | 0.024          | 0.447                    | 0.024        |

|                                             |       |       |           |           |       |       |       |
|---------------------------------------------|-------|-------|-----------|-----------|-------|-------|-------|
|                                             |       |       | 1         | 6         |       |       |       |
| Cetobacterium                               | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.029 | 0.447 | 0.029 |
| unclassified_Muribacul<br>aceae             | 0.201 | 0.313 | 0.04<br>4 | 0.01<br>6 | 0.040 | 0.447 | 0.040 |
| Prevotellaceae_UCG_0<br>01                  | 0.002 | 0.006 | 0.00<br>1 | 0.00<br>2 | 0.044 | 0.447 | 0.044 |
| Anaerobiospirillum                          | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.060 | 0.447 | 0.060 |
| Mucispirillum                               | 0.000 | 0.012 | 0.00<br>0 | 0.00<br>6 | 0.061 | 0.447 | 0.061 |
| UCG_005                                     | 0.000 | 0.001 | 0.00<br>0 | 0.00<br>0 | 0.062 | 0.447 | 0.062 |
| Lachnospiraceae_NK4<br>B4_group             | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.064 | 0.447 | 0.064 |
| Fusicatenibacter                            | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.068 | 0.447 | 0.068 |
| Anaerovorax                                 | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.069 | 0.447 | 0.069 |
| unclassified_Clostridia_<br>vadinBB60_group | 0.001 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.069 | 0.447 | 0.069 |
| Lachnospiraceae_UCG<br>_001                 | 0.002 | 0.010 | 0.00<br>1 | 0.00<br>4 | 0.079 | 0.447 | 0.079 |
| Megasphaera                                 | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.083 | 0.447 | 0.083 |
| unclassified_Hydrogeno<br>anaerobacterium   | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.085 | 0.447 | 0.085 |
| Neisseria                                   | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.086 | 0.447 | 0.086 |
| Megamonas                                   | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.091 | 0.447 | 0.091 |
| Phascolarctobacterium                       | 0.000 | 0.000 | 0.00<br>0 | 0.00<br>0 | 0.092 | 0.447 | 0.092 |

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Supplementary Table 6. The relative abundance of microbiota at species levels between the CON and LPS groups

| Species                                    | CON(<br>mean) | LPS(<br>mean<br>) | CO<br>N(se<br>) | LP<br>S(s<br>e) | multiGr<br>oup (p) | multiGroup<br>(p-corrected) | LPS::C<br>ON(p) |
|--------------------------------------------|---------------|-------------------|-----------------|-----------------|--------------------|-----------------------------|-----------------|
| Muribaculum_intestinale                    | 0.003         | 0.013             | 0.00<br>1       | 0.0<br>02       | 0.001              | 0.456                       | 0.001           |
| Parasutterella_excrementi<br>hominis       | 0.001         | 0.008             | 0.00<br>0       | 0.0<br>02       | 0.001              | 0.456                       | 0.001           |
| Streptococcus_danieliae                    | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.004              | 0.476                       | 0.004           |
| Ligilactobacillus_animali<br>s             | 0.018         | 0.003             | 0.00<br>4       | 0.0<br>01       | 0.007              | 0.476                       | 0.007           |
| unclassified_Harryflintia                  | 0.000         | 0.001             | 0.00<br>0       | 0.0<br>00       | 0.008              | 0.476                       | 0.008           |
| Hungateiclostridiaceae_b<br>acterium_KB18  | 0.000         | 0.002             | 0.00<br>0       | 0.0<br>00       | 0.008              | 0.476                       | 0.008           |
| Gemella_sanguinis                          | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.011              | 0.476                       | 0.011           |
| Clostridiales_bacterium_<br>CIEAF_021      | 0.004         | 0.013             | 0.00<br>1       | 0.0<br>02       | 0.011              | 0.476                       | 0.011           |
| Ruminococcus_champane<br>llensis           | 0.000         | 0.002             | 0.00<br>0       | 0.0<br>00       | 0.015              | 0.476                       | 0.015           |
| unclassified_Defluviitalea<br>ceae_UCG_011 | 0.000         | 0.001             | 0.00<br>0       | 0.0<br>00       | 0.022              | 0.476                       | 0.022           |
| unclassified_Candidatus_<br>Stoquefichus   | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.023              | 0.476                       | 0.023           |
| Pantoea_ananatis                           | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.023              | 0.476                       | 0.023           |
| Bilophila_wadsworthia                      | 0.001         | 0.007             | 0.00<br>0       | 0.0<br>02       | 0.023              | 0.476                       | 0.023           |
| Faecalibaculum_rodentiu<br>m               | 0.002         | 0.019             | 0.00<br>1       | 0.0<br>06       | 0.024              | 0.476                       | 0.024           |
| Cetobacterium_somerae                      | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.035              | 0.476                       | 0.035           |
| unclassified_Muribaculac<br>eae            | 0.201         | 0.313             | 0.04<br>4       | 0.0<br>16       | 0.040              | 0.476                       | 0.040           |
| unclassified_Prevotellace<br>ae_UCG_001    | 0.002         | 0.007             | 0.00<br>1       | 0.0<br>02       | 0.044              | 0.476                       | 0.044           |
| Weissella_cibaria                          | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.050              | 0.476                       | 0.050           |
| unclassified_Cetobacteriu<br>m             | 0.000         | 0.000             | 0.00<br>0       | 0.0<br>00       | 0.050              | 0.476                       | 0.050           |
| unclassified_Akkermansi                    | 0.000         | 0.000             | 0.00            | 0.0             | 0.052              | 0.476                       | 0.052           |



|                           |       |       |      |     |       |       |       |
|---------------------------|-------|-------|------|-----|-------|-------|-------|
| a                         |       |       | 0    | 00  |       |       |       |
| unclassified_Lachnospira  | 0.000 | 0.000 | 0.00 | 0.0 | 0.055 | 0.476 | 0.055 |
| ceae_bacterium_ic1311     |       |       | 0    | 00  |       |       |       |
| Clostridiales_bacterium_  | 0.000 | 0.000 | 0.00 | 0.0 | 0.056 | 0.476 | 0.056 |
| 40_4c                     |       |       | 0    | 00  |       |       |       |
| Oscillibacter_sp._1_3     | 0.001 | 0.003 | 0.00 | 0.0 | 0.059 | 0.476 | 0.059 |
|                           |       |       | 1    | 01  |       |       |       |
| Anaerobiospirillum_succi  | 0.000 | 0.000 | 0.00 | 0.0 | 0.060 | 0.476 | 0.060 |
| niciproducens             |       |       | 0    | 00  |       |       |       |
| unclassified_Lachnospira  | 0.000 | 0.000 | 0.00 | 0.0 | 0.064 | 0.476 | 0.064 |
| ceae_NK4B4_group          |       |       | 0    | 00  |       |       |       |
| Thermophilibacter_prove   | 0.000 | 0.000 | 0.00 | 0.0 | 0.066 | 0.476 | 0.066 |
| ncensis                   |       |       | 0    | 00  |       |       |       |
| uncultured_Prevotellacea  | 0.000 | 0.000 | 0.00 | 0.0 | 0.067 | 0.476 | 0.067 |
| e_bacterium               |       |       | 0    | 00  |       |       |       |
| unclassified_Clostridia_v | 0.001 | 0.000 | 0.00 | 0.0 | 0.069 | 0.476 | 0.069 |
| adinBB60_group            |       |       | 0    | 00  |       |       |       |
| unclassified_Lachnospira  | 0.002 | 0.009 | 0.00 | 0.0 | 0.072 | 0.476 | 0.072 |
| ceae_UCG_001              |       |       | 1    | 03  |       |       |       |
| Megasphaera_stantonii     | 0.000 | 0.000 | 0.00 | 0.0 | 0.083 | 0.476 | 0.083 |
|                           |       |       | 0    | 00  |       |       |       |
| uncultured_Desulfovibrio  | 0.000 | 0.000 | 0.00 | 0.0 | 0.085 | 0.476 | 0.085 |
| naceae_bacterium          |       |       | 0    | 00  |       |       |       |
| unclassified_Hydrogenoa   | 0.000 | 0.000 | 0.00 | 0.0 | 0.085 | 0.476 | 0.085 |
| naerobacterium            |       |       | 0    | 00  |       |       |       |
| Neisseria_sp._HMSC061     | 0.000 | 0.000 | 0.00 | 0.0 | 0.086 | 0.476 | 0.086 |
| B04                       |       |       | 0    | 00  |       |       |       |
| Megamonas_hypermegal      | 0.000 | 0.000 | 0.00 | 0.0 | 0.091 | 0.476 | 0.091 |
| e                         |       |       | 0    | 00  |       |       |       |
| unclassified_Fusicateniba | 0.000 | 0.000 | 0.00 | 0.0 | 0.094 | 0.476 | 0.094 |
| cter                      |       |       | 0    | 00  |       |       |       |
| Clostridium_sp._Clone_3   | 0.000 | 0.000 | 0.00 | 0.0 | 0.095 | 0.476 | 0.095 |
| 3                         |       |       | 0    | 00  |       |       |       |
| Lachnospiraceae_bacteriu  | 0.009 | 0.003 | 0.00 | 0.0 | 0.097 | 0.476 | 0.097 |
| m_DW17                    |       |       | 4    | 01  |       |       |       |
| unclassified_Candidatus_  | 0.000 | 0.000 | 0.00 | 0.0 | 0.098 | 0.476 | 0.098 |
| Soleaferrea               |       |       | 0    | 00  |       |       |       |

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