

Supplemental Table 1 (Functional Cluster Analysis)

| Rank | Function | Molecule | -log (p-value) |
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| 1 | Drug Metabolism | ALDH18A1↓,GSTM5↑,CXCL12↑,NR0B2↑,DDC↑,GSTM1↑,NQO2↑,GRIP1↑,ALDH1B1↑,APOE↑,TFPI↓,MGST1↓,CAT↓,CYP24A1↑,PAPSS2↑,NPR1↓,CD44↑,ABCB4↓ | 2.79E-05-1.67E-02 |
| 2 | Cancer | GSTM5↑,OLFML3↑,S100A9↓,LRRC15↑,GADD45A↑,BTG2↓,SELP↑,PTGIS↑,DKK3↑,SDC1↑,RAB31↑,LRP8↑,CCL21↓,GSTM1↑,PRLR,↓HSPA4↓,LASP1↓,CD151↑,ATP4B↑,LAMB3↑,CD44↑,S100A8↓,LGI1↓,TNFAIP8↓,ABCB4↓,CXCL12↑,INTS6↑,TGFB1↓,SEMA3C↑,ANGPTL2↑,NQO2↑,ANK3↑,HBEGF↑,CD24↓,VCAN↑,GLUL↑,CTLA4↓,APOE↑,BAMBI↑,EMP2↑,TFPI↓,GATA4↑,LRIG1↑,CTNNA1↑,PAPSS2↑,MAP4K4↑ | 5.01E-05-1.67E-02 |
| 3 | Cell-To-Cell Signaling and Interaction | F11R↑,S100A9↓,SELP↑,P2RY12↓,DKK3↑,SDC1↑,CCL21↓,FCGR2B↑,PRLR↓,CD151↑,CD44↑,NPR1↓,S100A8↓,EBF2↑,CXCL12↑,TGFB1↓,MBP↑,ANK3↑,HBEGF↑,CD24↓,GCNT1↓,VCAN↑,CTLA4↓,APOE↑,TAC1↑,PCDH9↓,HNT↑,TFPI↓ | 6.3E-05-1.67E-02 |
| 4 | Cellular Movement | F11R↑,S100A9↓,LRRC15↑,GADD45A↑,PEM↓,SELP↑,DKK3↑,SDC1↑,LRP8↑,FCGR2B↑,CCL21↓,MRLC2↓,CD151↑,LAMB3↑,SOCS2↓,CD44↑,S100A8↓,ABCB4↓,LGI1↓,TNFAIP8↓,ITSN1↑,EBF2↑,CXCL12↑,TGFB1↓,PDE4D↑,SEMA3C↑,HBEGF↑,CD24↓,CTLA4↓,VCAN↑,GCNT1↓,APOE↑,TAC1↑,TFPI↓,MAP4K4↑ | 6.3E-05-1.67E-02 |
| 5 | Hematological System Development and Function | F11R↑,S100A9↓,CXCL12↑,P2RY12↓,TOX↑,SELP↑,TGFB1↓,DKK3↑,MBP↑,PDE4D↑,NQO2↑,CCL21↓,FCGR2B↑,CD24↓,CTLA4↓,GCNT1↓,TAC1↑,APOE↑,CD151↑,SOCS2↓,S100A8↓,CD44↑,RASSF5↑,ABCB4↓ | 6.3E-05-1.67E-02 |
| 6 | Immune Response | F11R↑,S100A9↓,NT5E↑,CXCL12↑,SELP↑,MBP↑,PDE4D↑,FCGR2B↑,CCL21↓,CTLA4↓,GCNT1↓,TAC1↑,APOE↑,CD151↑,SOCS2↓,S100A8↓,CD44↑,ABCB4↓ | 6.3E-05-1.67E-02 |
| 7 | Inflammatory Disease | GADD45A↑,NT5E↑,CXCL12↑,SELP↑,TBC1D9↑,MBP↑,PDE4D↑,CCL21↓,FCGR2B↑,HBEGF↑,CTLA4↓,TAC1↑,APOE↑,PDE3B↑,MARK2↑,CD44↑,PDE7A↓,ABCB4↓ | 1.82E-04-1.4E-02 |
| 8 | Cardiovascular Disease | SELP↑,P2RY12↓,PTGIS↑,PDE4D↑,GSTM1↑,HBEGF↑,CTLA4↓,TAC1↑,APOE↑,TFPI↓,CACNA1D↑,PDE3B↑,NPR1↓,CD44↑,PDE7A↓ | 4.11E-04-1.59E-02 |

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| 9 | Genetic Disorder | GADD45A↑,NR0B2↑,SCN4B↓,SELP↑,PTGIS↑,ABCA4 (includes EG:24)↑,CLCN5↑,ALAS2↓,TCAP↑,ADAMTS3↑,PRLR↓,FGF23↑,CAT↓,LAMB3↑,LGI1↓,ABCB4↑,ACSL6↓,ROM1↑,CYP27A1↑,MYOT↓,APOE↑,ADAMTS6↓,ACTA1↓,GATA4↑,PAH↓,PAPSS2↑,RFXANK↑ | 4.86E-04-1.18E-02 |
| 10 | Cell Signaling | ALDH18A1↑,GSTM5↑,DDC↑,GSTM1↑,HSPA4↓,MAP3K9↑,DIAPH2↑,MYL7↑,MRLC2↓,SOCS2↓,NPR1↓,ADRBK2↑,ITSN1↑,NT5E↑,CXCL12↑,TGFB1↓,PBEF1↓,GDF10↑,NQO2↑,HBEGF↑,GRIP1↑,NAPB↑,ALDH1B1↑,SOX4↑,APOE↑,MAL↑,PAPSS2↑,MAP4K4↑,RASSF5↑,F11R↑,CAMKK2↑,GADD45A↑,NR0B2↑,P2RY12↓,PTGIS↑,DKK3↑,HSPA1B↑,LRP8↑,FCGR2B↑,PDE1C↑,FGF23↑,CASQ1↓,CAT↓,RAB23↑,CACNA1D↑,PDE3B↑,MARK2↑,CD44↑,PKIA↓,MYL4↑,SEMA3C↓,PDE4D↑,GLUL↑,CTLA4↓,TAC1↑,TFPI↓,MGST1↓,ACTA1↓,GPSM2↑,PDE7A↓ | 7.15E-04-1.18E-02 |
| 11 | Cardiovascular System Development and Function | TEAD1↓,IRX4 (includes EG:50805)↑,CXCL12↑,SELP↑,PTGIS↑,PDE4D↑,PDE1C↑,HBEGF↑,VCAN↑,MYL7↑,HIRA↑,ATE1↓,APOE↑,TFPI↑,CACNA1D↑,GATA4↑,PDE3B↑,CD44↑,PKIA↓,NPR1↓,PDE7A↓,ADRBK2↑ | 8.19E-04-1.49E-02 |
| 12 | Immune and Lymphatic System Development and Function | F11R↑,S100A9↑,CXCL12↑,TOX↑,SELP↑,DKK3↑,MBP↑,PDE4D↑,NQO2↑,FCGR2B↑,CCL21↓,CD24↓,GCNT1↓,CTLA4↓,TAC1↑,APOE↑,CD151↑,S100A8↓,CD44↑,RASSF5↑ | 1.25E-03-1.72E-02 |
| 13 | Cellular Assembly and Organization | CXCL12↑,STX18↑,MBP↑,ROM1↑,OGN↑,CCL21↓,HBEGF↑,ANK3↑,CD24↓,VCAN↑,DIAPH2↑,CENPJ↑,APOE↑,CENPA↑,GATA4↑,MARK2↑,GPSM2↑,CD44↑,EBF2↑,ITSN1↑ | 1.35E-03-1.67E-02 |
| 14 | Cellular Function and Maintenance | CUBN↑,LRP8↑,HBEGF↑,CD24↓,APOE↑,CXCL12↑,GATA4↑,PDLIM7↓,CLCN5↑,CD44↑,ITSN1↑ | 1.35E-03-1.67E-02 |
| 15 | Nucleic Acid Metabolism | UGP2↓,NT5E↑,POLN↓,DLG2↑,PRPS2↑,PDE4D↑,POLK↓,PDE1C↑,NT5C↑,TAC1↑,CAT↓,PDE3B↑,PAPSS2↑,NPR1↓,PDE7A↓ | 1.42E-03-1.18E-02 |

Supplemental table 1: Top functional categories of the genes regulated in the GATA/TTA mice. The data were obtained using Ingenuity pathway analysis (Ingenuity Systems). ↑ depicts gene upregulated in GATA/TTA hearts, ↓ depicts gene downregulated in GATA/TTA hearts.