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Pathway enrichment of up-regulated genes

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1
Pathway name: ECM-receptor interaction
Adjusted p-value: 9.68E-03
Differentially expressed genes in pathway: HSPG2; ITGA10; ITGA2; ITGA3; ITGA6; THBS2;
The number of differentially expressed genes in pathway: 6
The total number of genes in pathway: 88
Pathway database: KEGG

2
Pathway name: Hematopoietic cell lineage
Adjusted p-value: 9.68E-03
Differentially expressed genes in pathway: CD24; CD9; CSF1; ITGA2; ITGA3; ITGA6;
The number of differentially expressed genes in pathway: 6
The total number of genes in pathway: 88
Pathway database: KEGG

3
Pathway name: Cell adhesion molecules (CAMs)
Adjusted p-value: 1.79E-02
Differentially expressed genes in pathway: CLDN2; CLDN4; ESAM; ITGA6; L1CAM; SDC3; VCAN;
The number of differentially expressed genes in pathway: 7
The total number of genes in pathway: 144
Pathway database: KEGG

4
Pathway name: Arrhythmogenic right ventricular cardiomyopathy (ARVC)
Adjusted p-value: 1.94E-02
Differentially expressed genes in pathway: CACNA2D4; ITGA10; ITGA2; ITGA3; ITGA6;
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 74
Pathway database: KEGG

5
Pathway name: Hypertrophic cardiomyopathy (HCM)
Adjusted p-value: 2.65E-02
Differentially expressed genes in pathway: CACNA2D4; ITGA10; ITGA2; ITGA3; ITGA6;
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 83
Pathway database: KEGG

6
Pathway name: Dilated cardiomyopathy

Adjusted p-value: 3.08E-02
Differentially expressed genes in pathway: CACNA2D4; ITGA10; ITGA2; ITGA3; ITGA6;
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 90
Pathway database: KEGG

7
Pathway name: Extracellular matrix organization
Adjusted p-value: 4.89E-02
Differentially expressed genes in pathway:
ITGA3;TIMP2;VCAN;ITGA6;TTR;LTBP2;BMP4;LOXL2;HSPG2;ITGA10;ADAMTS4;SDC3;CAPN2;ITGA
2;COLGALT2;DDR1
The number of differentially expressed genes in pathway: 16
The total number of genes in pathway: 320
Pathway database: Reactome

8
Pathway name: Granulocyte Adhesion and Diapedesis
Adjusted p-value: 3.72E-02
Differentially expressed genes in pathway:
IL18;ITGA3;CLDN4;NGFR;ITGA2;ITGA6;CLDN2;SDC3
The number of differentially expressed genes in pathway: 8
The total number of genes in pathway: 177
Pathway database: IPA

9
Pathway name: STAT3 Pathway
Adjusted p-value: 3.72E-02
Differentially expressed genes in pathway: TGFBR2;PIAS3;NGFR;TGFBR3;DDR1
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 73
Pathway database: IPA

10
Pathway name: Axonal Guidance Signaling
Adjusted p-value: 3.72E-02
Differentially expressed genes in pathway:
ITGA3;BMP4;TUBA1A;NRP2;NGFR;ITGA2;ADAM19;L1CAM;PRKCH;TUBB2B;NRP1;ADAMTS4
The number of differentially expressed genes in pathway: 12
The total number of genes in pathway: 448
Pathway database: IPA

11
Pathway name: PTEN Signaling
Adjusted p-value: 3.72E-02
Differentially expressed genes in pathway: TGFBR2;ITGA3;NGFR;TGFBR3;ITGA2;DDR1
The number of differentially expressed genes in pathway: 6
The total number of genes in pathway: 119
Pathway database: IPA

12

Pathway name: Role of Tissue Factor in Cancer
Adjusted p-value: 3.72E-02
Differentially expressed genes in pathway: ITGA3;ARRB1;F2RL1;CSF1;ITGA6;PLAUR
The number of differentially expressed genes in pathway: 6
The total number of genes in pathway: 122
Pathway database: IPA

13
Pathway name: Sertoli Cell-Sertoli Cell Junction Signaling
Adjusted p-value: 3.80E-02
Differentially expressed genes in pathway:
ITGA3;TUBA1A;CLDN4;TGFB3;ITGA2;CLDN2;TUBB2B
The number of differentially expressed genes in pathway: 7
The total number of genes in pathway: 178
Pathway database: IPA

14
Pathway name: Role of Osteoblasts; Osteoclasts and Chondrocytes in
Rheumatoid Arthritis
Adjusted p-value: 3.80E-02
Differentially expressed genes in pathway:
IL18;ITGA3;BMP4;CSF1;NGFR;ITGA2;DKK1;ADAMTS4
The number of differentially expressed genes in pathway: 8
The total number of genes in pathway: 232
Pathway database: IPA

15
Pathway name: Factors Promoting Cardiogenesis in Vertebrates
Adjusted p-value: 4.07E-02
Differentially expressed genes in pathway: TGFB2;BMP4;TGFB3;PRKCH;DKK1
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 92
Pathway database: IPA

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Pathway enrichment of down-regulated genes
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1
Pathway name: Complement and coagulation cascades
Adjusted p-value: 3.22E-14
Differentially expressed genes in pathway: C1R; C1S; C5; C8B; C8G; F12; F7;
FGA; FGB; FGG; KNG1; SERPINC1; SERPINF2; SERPING1;
The number of differentially expressed genes in pathway: 14
The total number of genes in pathway: 69
Pathway database: KEGG

2
Pathway name: Butanoate metabolism

Adjusted p-value: 6.21E-04
Differentially expressed genes in pathway: ACSM2A; ACSM2B; ACSM3; HMGCS1;
The number of differentially expressed genes in pathway: 4
The total number of genes in pathway: 26
Pathway database: KEGG

3
Pathway name: Staphylococcus aureus infection
Adjusted p-value: 6.00E-03
Differentially expressed genes in pathway: C1R; C1S; C5; FGG;
The number of differentially expressed genes in pathway: 4
The total number of genes in pathway: 53
Pathway database: KEGG

4
Pathway name: Alanine; aspartate and glutamate metabolism
Adjusted p-value: 1.43E-02
Differentially expressed genes in pathway: AGXT; ASS1; CPS1;
The number of differentially expressed genes in pathway: 3
The total number of genes in pathway: 35
Pathway database: KEGG

5
Pathway name: Prion diseases
Adjusted p-value: 1.50E-02
Differentially expressed genes in pathway: C5; C8B; C8G;
The number of differentially expressed genes in pathway: 3
The total number of genes in pathway: 36
Pathway database: KEGG

6
Pathway name: Systemic lupus erythematosus
Adjusted p-value: 1.58E-02
Differentially expressed genes in pathway: C1R; C1S; C5; C8B; C8G;
The number of differentially expressed genes in pathway: 5
The total number of genes in pathway: 126
Pathway database: KEGG

7
Pathway name: Phenylalanine metabolism
Adjusted p-value: 3.62E-02
Differentially expressed genes in pathway: DDC; PAH;
The number of differentially expressed genes in pathway: 2
The total number of genes in pathway: 18
Pathway database: KEGG

8
Pathway name: Arginine and proline metabolism
Adjusted p-value: 4.70E-02
Differentially expressed genes in pathway: ARG1; ASS1; CPS1;
The number of differentially expressed genes in pathway: 3
The total number of genes in pathway: 60

Pathway database: KEGG

9

Pathway name: Formation of Fibrin Clot (Clotting Cascade)

Adjusted p-value: 1.95E-05

Differentially expressed genes in pathway:

F7;KNG1;SERPIN1;F12;SERPING1;FGG;FGA;FGB

The number of differentially expressed genes in pathway: 8

The total number of genes in pathway: 42

Pathway database: Reactome

10

Pathway name: Terminal pathway of complement

Adjusted p-value: 6.35E-04

Differentially expressed genes in pathway: C8B;C5;CLU;C8G

The number of differentially expressed genes in pathway: 4

The total number of genes in pathway: 8

Pathway database: Reactome

11

Pathway name: Platelet degranulation

Adjusted p-value: 8.09E-04

Differentially expressed genes in pathway:

ITIH4;APOH;KNG1;CLU;A1BG;SERPING1;SERPINF2;FGG;FGA;FGB

The number of differentially expressed genes in pathway: 10

The total number of genes in pathway: 137

Pathway database: Reactome

12

Pathway name: Response to elevated platelet cytosolic Ca²⁺

Adjusted p-value: 9.30E-04

Differentially expressed genes in pathway:

ITIH4;APOH;KNG1;CLU;A1BG;SERPING1;SERPINF2;FGG;FGA;FGB

The number of differentially expressed genes in pathway: 10

The total number of genes in pathway: 144

Pathway database: Reactome

13

Pathway name: Regulation of Complement cascade

Adjusted p-value: 2.75E-03

Differentially expressed genes in pathway:

C8B;C5;C8G;C4B;C4B_2;CFB;CFB;CFB;CFB

The number of differentially expressed genes in pathway: 5

The total number of genes in pathway: 30

Pathway database: Reactome

14

Pathway name: Activation of C3 and C5

Adjusted p-value: 6.29E-03

Differentially expressed genes in pathway: C5;C4B;C4B_2;CFB;CFB;CFB;CFB

The number of differentially expressed genes in pathway: 3

The total number of genes in pathway: 7

Pathway database: Reactome

15

Pathway name: Intrinsic Pathway of Fibrin Clot Formation

Adjusted p-value: 1.26E-02

Differentially expressed genes in pathway: KNG1;SERPINC1;F12;SERPING1

The number of differentially expressed genes in pathway: 4

The total number of genes in pathway: 24

Pathway database: Reactome

16

Pathway name: Common Pathway of Fibrin Clot Formation

Adjusted p-value: 1.30E-02

Differentially expressed genes in pathway: SERPINC1;FGG;FGA;FGB

The number of differentially expressed genes in pathway: 4

The total number of genes in pathway: 25

Pathway database: Reactome

17

Pathway name: Regulation of TLR by endogenous ligand

Adjusted p-value: 2.55E-02

Differentially expressed genes in pathway: LBP;FGG;FGA;FGB

The number of differentially expressed genes in pathway: 4

The total number of genes in pathway: 31

Pathway database: Reactome

18

Pathway name: Platelet activation; signaling and aggregation

Adjusted p-value: 4.14E-02

Differentially expressed genes in pathway:

ITIH4;APOH;KNG1;CLU;A1BG;SERPING1;SERPINF2;FGG;FGA;FGB;DGKK

The number of differentially expressed genes in pathway: 11

The total number of genes in pathway: 305

Pathway database: Reactome

19

Pathway name: Acute Phase Response Signaling

Adjusted p-value: 1.26E-12

Differentially expressed genes in pathway:

HAMP;SERPING1;APOH;C1S;SERPINF2;FGG;C5;C4A/C4B;C1R;HP;ITIH4;CFB;FGB;LBP;FGA;RBP4

The number of differentially expressed genes in pathway: 16

The total number of genes in pathway: 169

Pathway database: IPA

20

Pathway name: FXR/RXR Activation

Adjusted p-value: 3.98E-12

Differentially expressed genes in pathway:

KNG1;MLXIPL;APOH;A1BG;SERPINF2;SULT2A1;C4A/C4B;HPR;ITIH4;CYP19A1;FGA;CLU;RBP4;AP
OC3

The number of differentially expressed genes in pathway: 14

The total number of genes in pathway: 126

Pathway database: IPA

21

Pathway name: LXR/RXR Activation

Adjusted p-value: 3.16E-11

Differentially expressed genes in pathway:

KNR1;MLXIPL;APOH;ALBG;SERPINF2;C4A/C4B;HPR;ITIH4;LBP;FGA;CLU;RBP4;APOC3

The number of differentially expressed genes in pathway: 13

The total number of genes in pathway: 121

Pathway database: IPA

22

Pathway name: Coagulation System

Adjusted p-value: 1.62E-09

Differentially expressed genes in pathway:

KNR1;F12;SERPINC1;F7;FGB;FGA;SERPINF2;FGG

The number of differentially expressed genes in pathway: 8

The total number of genes in pathway: 35

Pathway database: IPA

23

Pathway name: Complement System

Adjusted p-value: 2.09E-09

Differentially expressed genes in pathway:

C1R;C4A/C4B;SERPING1;C1S;CFB;C8B;C8G;C5

The number of differentially expressed genes in pathway: 8

The total number of genes in pathway: 37

Pathway database: IPA

24

Pathway name: Extrinsic Prothrombin Activation Pathway

Adjusted p-value: 1.17E-08

Differentially expressed genes in pathway: F12;SERPINC1;F7;FGB;FGA;FGG

The number of differentially expressed genes in pathway: 6

The total number of genes in pathway: 16

Pathway database: IPA

25

Pathway name: Intrinsic Prothrombin Activation Pathway

Adjusted p-value: 5.62E-07

Differentially expressed genes in pathway: KNR1;F12;SERPINC1;FGB;FGA;FGG

The number of differentially expressed genes in pathway: 6

The total number of genes in pathway: 29

Pathway database: IPA

26

Pathway name: Urea Cycle

Adjusted p-value: 1.10E-04

Differentially expressed genes in pathway: ASS1;CPS1;ARG1

The number of differentially expressed genes in pathway: 3

The total number of genes in pathway: 6

Pathway database: IPA

27
Pathway name: Superpathway of Citrulline Metabolism
Adjusted p-value: 1.70E-03
Differentially expressed genes in pathway: ASS1;CPS1;ARG1
The number of differentially expressed genes in pathway: 3
The total number of genes in pathway: 14
Pathway database: IPA

28
Pathway name: Estrogen-mediated S-phase Entry
Adjusted p-value: 8.13E-03
Differentially expressed genes in pathway: CCNA2;SKP2;CDC25A
The number of differentially expressed genes in pathway: 3
The total number of genes in pathway: 24
Pathway database: IPA