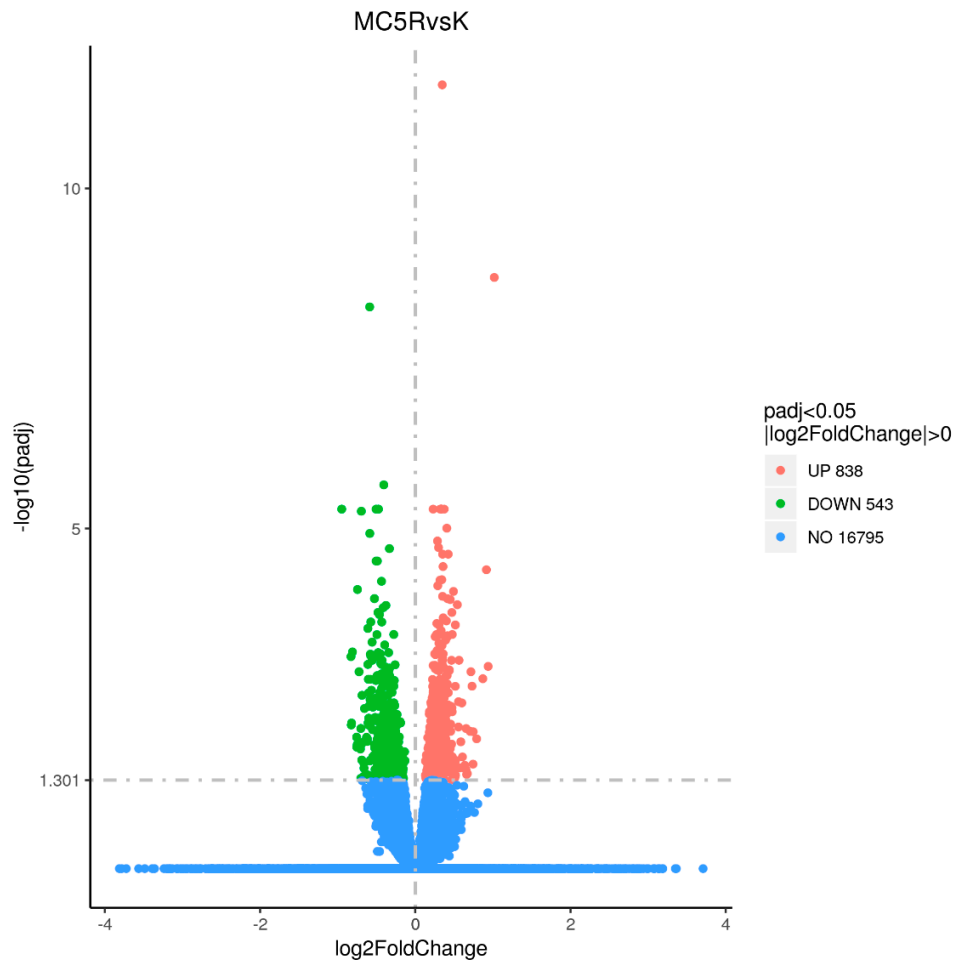
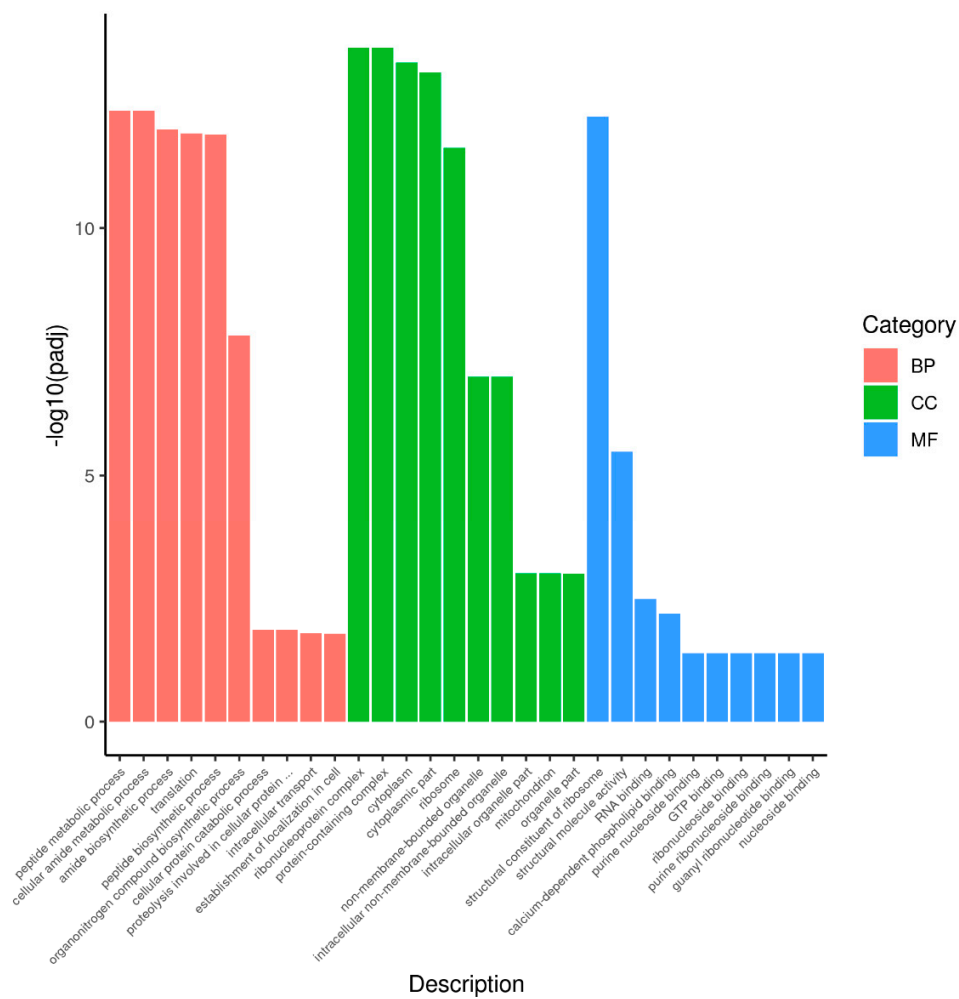


Supplementary Material

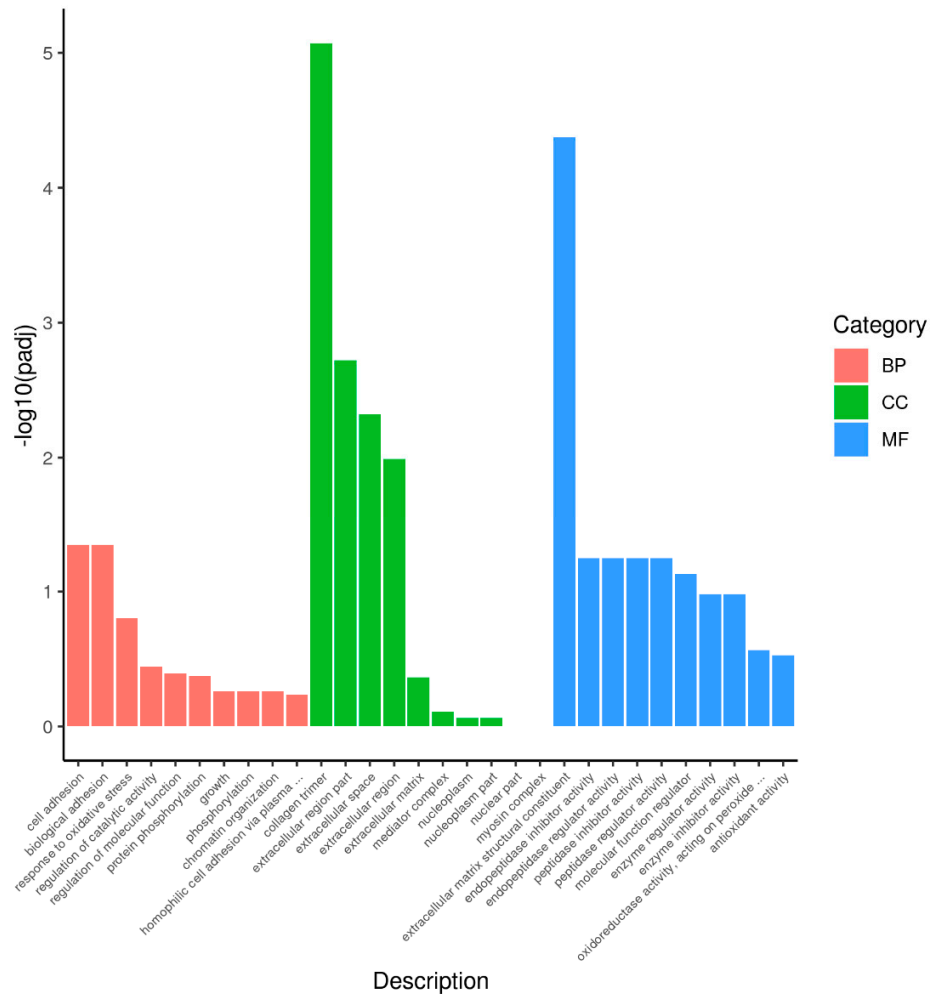


Supplementary Figure S1. Volcano plot showing the distribution of the differentially expressed genes (DEGs) identified by transcriptome analysis. Note: The red dots are the upregulated DEGs identified in goose primary hepatocytes treated with *MC5R* overexpression vector vs. empty vector. The green dots are the downregulated DEGs. The blue dots are the genes whose mRNA expression level is not significantly different between the hepatocytes treated with *MC5R* overexpression vector and empty vector.

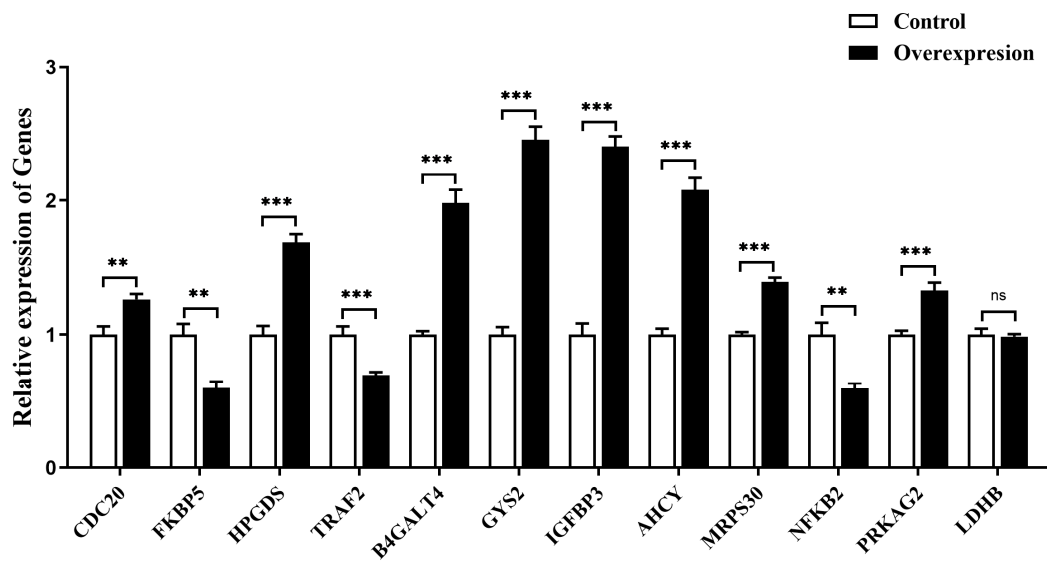
A



B



Supplementary Figure S2. The top 20 Gene Ontology (GO) terms that are enriched with the upregulated (A) or downregulated (B) differentially expressed genes (DEGs). Note: The DEGs are identified in goose primary hepatocytes treated with *MC5R* overexpression vector versus empty vector.



Supplementary Figure S3. Validation of some randomly selected differentially expressed genes (DEGs) identified from RNA-seq analysis. Note: The DEGs are identified in goose primary hepatocytes treated with *MC5R* overexpression vector versus empty vector. The mRNA expression level was determined by RT-qPCR and presented as fold change over the control group. The internal reference gene was *UBC*. n = 6. **, *** indicate $p < 0.01$ and 0.001 , respectively. 'ns' denotes $p > 0.05$.

Supplementary Table

Table S1. The sequences of primers used for qPCR analysis

Gene	forward (5'-3')	reverse (5'-3')
<i>MC5R</i>	F: GCCTGGGTACAACCTCTGTCC	R: AGCCCAGCAAACGATGAAGA
<i>GAPDH</i>	R: GCCATCAATGATCCCTTCAT	R: CTGGGGTCACGCTCCTG
<i>UBC</i>	F: AGGGTGGATTCTTTCTGG	R: ACTGAGTTTGGAGGGAGC
<i>AHCY</i>	F: TTCAGGGCAGACACTTCGAG	R: TGTGACGGCCATTCCTCAAT
<i>CDC20</i>	F: GCGCTGTTGATGCTCATTCC	R: CCGATGCCACTGTTGAGCTA
<i>TRAF2</i>	F: GGATGTGCTGAGTTGGTGGA	R: GGAAAGGGCAGGAAGATGCT
<i>HPGDS</i>	F: TAACAAATGGCTGGTGGGGA	R: GCCAAAAGCCTGGGGTACTT
<i>IGFBP3</i>	F: TCATCAGGAAAGAGCAAGCCA	R: CCTTTGGATGGACGACATTGC
<i>FKBP5</i>	F: TCGGGGACAAGGTTTACGTG	R: CACACCTCGCCCTTCTTCAT
<i>B4GALT4</i>	F: GGGTCTGATGGTGCTATGGG	R: CCTCGCAGGTATGGAGACAC
<i>GYS2</i>	F: ACCCATGCCACTCTTCTTGG	R: AGCCATTTGGGGTGACAACA
<i>MRPS30</i>	F: ATGATAAGCCGCACCTCCAG	R: GGCAGTTTGGACGGTTTGTG
<i>NfκB2</i>	F: GATCGACGTGGTCGTTAGCA	R: TCACCATCTCTTCATCGCCC
<i>LDHB</i>	F: TTGTGCCGGGTTCATTCACT	R: TTAGGACACAAGGCAGGCTC
<i>PRKAG2</i>	F: CGGACACAGGGCAGAGATTT	R: AGGTAGCACAGGGAGATGGT
<i>ACSL1</i>	F: ACACACCTGACAAGGCCAAA	R: GGGTTTCCTGTCTGTTCCACT
<i>PSPH</i>	F: CCTCAGCTAACGCCAGGAAT	R: ACCCCCAGAGACCAAGAAGA
<i>HMGCS1</i>	F: GACCAGAACCCAGAGATGGC	R: GGCTAGAAGAGAGGCAAGGC
<i>CPT1A</i>	F: ATGACTGGTGCTGGCATTGA	R: GCCAGCATCTCAGGGTTCTT
<i>PACSIN2</i>	F: CTACCCACAGATTGGTCCG	R: ACTCTCACTTCCATTGCGGG
<i>NMRK1</i>	F: ACACCGGGGTACTTTGATGG	R: ACAGAACCCAGGCCTTCTAC
<i>ECI2</i>	F: TCTCTGCGAAGCAAGGCAA	R: ATGGTGGCTGTAGTCATGTGC
<i>NDRG1</i>	F: CACAGCAACCCTGACCTGAT	R: GGTCTCGCCGACTGTTGTAA
<i>CDK9</i>	F: TAAGAACAGCCAGCCGAACC	R: ATCCGCAGAGCTGGCTAATG
<i>FBXO25</i>	F: GCACAGGTTCTCTGATGGCT	R: CAAGGTGTCTCCGTACTGCT
<i>SLC25A25</i>	F: AGATGTTGGGGAAGCCACAG	R: CCTTGTCTCCAGCCTTCACA
<i>USP25</i>	F: ATTTGGAGTTGGCTGTGGCT	R: AGTCTCCCTGAATGCCCTGT