

Supporting Information

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Engineering Ultrasmall Ferroptosis-Targeting and
Reactive Oxygen/Nitrogen Species-Scavenging
Nanozyme for Alleviating Acute Kidney Injury

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Keyi Wang, Yang Zhang, Weipu Mao, Wei Feng^{}, Shuting Lu, Jian Wan, Xinran Song, Yu Chen^{*} and Bo Peng^{*}*

Mr. K. Wang, Prof. B. Peng

Department of Urology, Shanghai Tenth People's Hospital, School of Medicine, Tongji University, Shanghai, 200060, P. R. China. E-mail: pengbo6908@tongji.edu.com (B. Peng)

Mrs. X. Song, A/Prof. Dr. W. Feng, Prof. Y. Chen

Shanghai Engineering Research Center of Organ Repair, Materdicine Lab, School of Life Sciences, Shanghai University, Shanghai, 200444, P. R. China. Email: fengw@shu.edu.cn (W. Feng); chenyu@shu.edu.cn (Y. Chen).

Mr. Y. Zhang, Mr. J. Wan

Nanotechnology and Intestinal Microecology Research Center, Shanghai Tenth People's Hospital, School of Medicine, Tongji University, Shanghai 200072, P. R. China.

Mr. Y. Zhang, Mr. J. Wan

Precision Medicine Center, Taizhou Central Hospital, Taizhou, Zhejiang, 318000, P. R. China.

Mr. W. Mao, Mrs. S. Lu

Medical school of Southeast University, Nanjing, 210009, P. R. China.

Prof. Y. Chen

Wenzhou Institute of Shanghai University
Wenzhou 325000, P. R. China.

Experimental Section

Materials: All chemical reagents were purchased from commercial sources with no further purification. Potassium hexacyanoferrate (III) ($K_3[Fe(CN)_6]$), 3,3',5,5'-Tetramethylbenzidine (TMB), lipopolysaccharide (LPS) and 2H-Pyrrole-2-carboxylic acid, 3,4-dihydro-2-methyl-,1,1-dimethylethylester,1-oxide (BMPO) were purchased from Sigma-Aldrich. Polyvinyl pyrrolidone (PVP) and Cy5.5-N-hydroxysuccinimide (NHS) were obtained from Adamas-beta Inc. (Shanghai, China). Calcium Chloride ($CaCl_2$) and Fin56 were purchased from Greagent (Shanghai, China) and MedChemExpress (Shanghai, China), respectively. Superoxide dismutase (SOD) assay kit, glutathione peroxidase (GPx) assay kit, 2',7'-dichlorofluorescein diacetate (DCFH-DA) and 4-aminomethyl-2',7'-difluorescein diacetate (DAF-FM DA) were purchased from Beyotime (Shanghai, China). Live/dead viability kit, 5',6,6'-tetrachloro-1,1',3,3'-tetraethylbenzimidazolylcarbocyanine iodide (JC-1) assay kit, Cell Counting Kit-8, TdT-mediated dUTP Nick-End Labeling (TUNEL) assay kits, and cell apoptosis analysis kits were obtained from Yeasen (Shanghai, China). The commercial enzyme-linked immunosorbent assay (ELISA) kits of interleukin-1 β (IL-1 β), interferon- γ (IFN- γ), and tumor necrosis factor- α (TNF- α), and interleukin-10 (IL-10) were purchased from Mlbio (Shanghai, China). The ELISA kits of kidney injury molecule 1 (Kim-1), heme oxygenase-1 (HO-1) and 8-hydroxy-2'-deoxyguanosine (8-OHdG) were obtained from Jiangsu Meimian industrial Co. Ltd. (Jiangsu, China). The ELISA kits of lipid peroxidation (LPO) was bought from Quanzhou Ruixin Biological Technology Co.LTD. (Quanzhou, China). EdU assay kit was obtained from Ribobio (Guangzhou, China). 2-(4-Amidinophenyl)-1H-indole-6-carboxamide [4',6-diamidino-2-phenylindole (DAPI)] and bicinchoninic acid (BCA) protein assay kit were obtained from ThermoFisher Scientific. Anti-GPx4 antibody, anti-ACSL4 antibody, anti-PTGS2 antibody, anti-CD68 antibody, anti-3-Nitrotyrosine antibody, anti-GAPDH antibody and the secondary anti-rabbit immunoglobulin G (IgG) horseradish peroxidase (HRP) were purchased from Abcam.

Synthesis of CaPB nanoparticles: A solution of 10.0 mM $K_3[Fe(CN)_6]$ with the volume of 20 mL (pH \approx 1) was dropped to 20 mL 10.0 mM $CaCl_2$ containing 500 mg of PVP (average MW = 40,000) to generate a clear pale-yellow solution at room temperature. After stirring at a constant

speed for 20 min, the solution was added to a dialysis bag (Molecular Weight Cut Off (MWCO) \approx 12,000) stirring for 2 h. The distilled water for dialysis was changed after 30 min every time. The solid product was collected after the overnight lyophilization.

Preparation of the Cy5.5-labeled CaPB nanoparticles: The synthesized CaPB nanozymes were modified by polyethyleneimine (PEI) through adding the PEI solution (10 mL, 4 mg/mL, pH = 5) to the NPs aqueous dispersion (20 mL, 1 mg/mL) under stirring at room temperature. After stirring for 4 h, PEI-modified NPs (CaPB@PEI NPs) were obtained by drying for 12 h after centrifugation. Next, the Cy5.5 molecules were absorbed by CaPB@PEI NPs through electrostatic interaction. The Cy5.5 aqueous solution (5 mL; 100 μ g/mL) was dropped into the previously obtained CaPB@PEI NPs dispersion (5 mL) followed by stirring at a constant speed for 24 h. All the synthesis procedures were progressed in the dark due to the rapidly degrading of Cy5.5 under illumination.

Characterization: Ultraviolet-visible (UV-vis) absorption spectra were measured by UV-vis spectrophotometer. The electron spin resonance (ESR) spectrum was measured by a Bruker EMX plus model spectrometer operating at X-band frequencies (9.8 GHz). Transmission electron microscope (TEM) imaging was progressed by a Tecnai G220 (Shimadzu, Japan) at 200 keV. The sample was dropped on 230 mesh copper TEM grids covered with carbon films. Fourier Transform infrared spectroscopy (FTIR) spectra was conducted by a FTIR-8300 series spectrometer (Shimadzu, Japan). XPS was performed by an ESCALAB 250 Xi Mg (Thermo Scientific, Japan) X-ray resource. X-ray diffraction (XRD) measurement is carried out on a Rigaku D/MAX-2550 V X-ray power diffractometer. The fluorescent imaging was conducted by CarlZeiss LSM710 (ZEISS, Germany) or Leica DM6 B (Leica, Germany). The fluorescence intensity was determined by SpectraMax iD5 (Molecular Devices, America). The imaging of Westernblot was performed by AI600 (GE, America). The cell cycle analysis was conducted by FACS Canto II (Molecular Devices, America).

Multienzyme-like Ability: SOD-like ability of CaPB NPs was measured by the SOD assay kit and the mixture was spectrophotometrically measured at 450 nm using UV-vis spectroscopy. POD-like ability was measured by UV-vis absorption spectra to obtain absorbance of TMB solution.

H₂O₂ solution (200 μ L, 40 mM) with nanozyme (20 μ L) and TMB (0.8 mM) were added into the colorimetric dish and the absorbance was monitored at 652 nm. CAT-like ability of CaPB NPs was monitored by using dissolved oxygen meter to obtain concentration of O₂ solution. H₂O₂ solution (200 μ L, 40 mM) was mixed with nanozyme (20 μ L) in the glass bottle and the concentration of O₂ solution was monitored during 30 min. GPx-like ability was measured by using the GPx assay kit and the reactant was spectrophotometrically monitored at 340 nm using UV-vis spectroscopy.

Scavenging of RO/NSs: The scavenging ability of O₂^{•-} was measured by the ESR spectrum with BMPO as a trapping agent. KO₂ (35.56 μ g) was mixed with the 18-crown-6 in DMSO solution (200 μ L, 0.35 mM) and further added with BMPO (1 mg) under ultrasonic treatment. Then ESR signals were collected in the absence and presence of CaPB nanozymes to estimate O₂^{•-}-scavenging ability. The scavenging ability of •OH was investigated by the ESR spectrum. BMPO (1 mg) was added in the H₂O₂ (1 mM) or phosphate buffer saline (PBS) buffer (200 μ L, 10mM) for radical capture. Then fenton reagent was dissolved in the solution to generate •OH. The scavenging ability was evaluated by the intensity of the ESR amplitude with/without CaPB nanozymes. For the generation of ONOO⁻, NaNO₂ solution (10 mL, 50 mM) was mixed with H₂O₂ (10 mL, 25 mM) and the mixture was stirred for 3 min. Then, HCl (5 mL, 1 M) and NaOH (5 mL, 1.5 M) were added within 1 s under stirring until the mixture turn to light yellow. The entire reaction system was kept in an ice-water bath. The scavenging ability was investigated by the absorbance at 302 nm through the UV-vis spectroscopy. For the DPPH-scavenging ability, CaPB nanozymes were mixed with DPPH in ethyl alcohol (200 μ L, 25 mM) and measured by UV-vis spectroscopy at the same time.

Cell cultures: L929 cells were cultured in Dulbecco's Modified Eagle's Medium (DMEM) medium (Gibco, China) containing 1% penicillin G sodium/streptomycin sulfate and 5% fetal bovine serum (FBS) (Gibco, China). RAW264.7 cells were cultured in Dulbecco's Modified Eagle's Medium (DMEM) medium (Gibco, China) containing 10% FBS and 1% penicillin G sodium/streptomycin sulfate. All cells were cultured in T-25 flasks for cell inheritance at 37 °C and 5% CO₂ in a constant temperature incubator.

CaPB nanozyme protects cells from oxidative damages: The two kinds of cells were incubated in the 48-well cell culture cluster for 24 h with the cell density at 60 ~ 80%; then the medium of cells was replaced by the fresh medium containing CaPB nanozymes of different concentrations for 12 h. Then, the cells were treated with different conditions consisting of LPS, H₂O₂, Fenton reagent, and UV irradiation separately. For LPS treatment, 10 µg/mL LPS was co-cultured with cells for 24 h. And the H₂O₂ (400 µM) treatment was continued for 4 h. The Fenton reagent, containing the H₂O₂ (200 µM) and Fe²⁺ (40 µM), was added into the cell culture medium for 4 h. Finally, the UV irradiation was simulated by the UV lamp (Phillips) at a dose of 30 J/cm² for 15 min and the distance between the lamp and cells was 10 cm. The treated cells are incubated at 37 °C and 5% CO₂ in a constant temperature incubator. After the above treatments, CCK-8 viability assay kit was used for the detection of cell viability. The culture medium was replaced by the no-FBS medium containing CCK-8 reagent (10:1) and co-cultured with the pre-treated cells for 1 h in the incubator. Finally, the viability of cells was determined by the SpectraMax iD5 (n = 4 for each group).

Intracellular RO/NSs detection: The generation of intracellular ROS was determined by DCFH-DA detector. The intracellular ROS can oxidize DCFH into fluorescent DCF, which functions as the indicator of the level of ROS. And the RNS generation was detected by the probe of DAF-FM DA. Cells were pre-treated with different kinds of oxidative damage. Then, the cells were treated with 10 µM DCFH-DA or 5 µM DAF-FM DA at 37 °C for 30 min in the incubator. The cells were subsequently washed by the non-FBS DMEM for 3 times to remove the excess dye. Finally, the treated cells were taken photographs by the CarlZeiss LSM710 or measured using SpectraMax iD5 with an excitation wavelength of 488 nm and 525 nm emission wavelength.

Measurements of cytokines: For the measurements of cytokines, the ELISA experiments were conducted by using the commercial kits. The RAW cells were pretreated with LPS for 12 h and the cell supernatant was collected for next investigation. And the tissue homoplasm for cytokines detection was obtained after grinding. The ELISA assay was conducted according to the manufacturer's protocol.

CaPB nanozyme for protecting cells from ferroptosis induced by Fin56: The ferroptosis inducer

Fin56 can decrease GPx4 abundance in cell lysates. Fin56 can combine and further activate squalene synthase (SQS) for the inhibition of meglutaric acid pathway, which increases the cells' sensitivity to ferroptosis. Cells were cultured in the incubator for 12 h to achieve 50% cell density before the ferroptosis inducement. Then, the Fin56 was added in the fresh medium with different concentrations of CaPB nanozyme to obtain 10 μ M Fin56. The Fin56-added medium replaced the original cell medium to culture cells for another 48 h at 37 °C and 5% CO₂ in a constant temperature incubator. After the co-culture, cells were examined for determining the cell viability through CCK-8 method.

Western blot: For detection of GPx4, ACSL4, and PTGS2 expression changes, the RIPA lysate was added to the cells with different treatments. The protein solution was extracted after full digestion in the ice-water bath for 30 min. And the concentration was determined according to the instructions of the BCA protein assay reagent kit. According to the measured protein concentration, 50 μ g of proteins were heated at 100 °C for 10 min in the metal dry bath instrument after adding an appropriate amount of 6X sample loading buffer. Extracted proteins were separated by gel electrophoresis and transferred to PVDF membrane, which were blocked with 5% milk at room temperature. Then, the membrane was incubated with the primary antibody consisted of anti-GPx4 antibody (1:1000), anti-ACSL4 antibody (1:1000), anti-PTGS2 antibody (1:1000), and anti-GAPDH antibody (1:10000) overnight. At the next day, the corresponding secondary antibodies were incubated at room temperature for 1 h and dyed by ECL detection reagent.

Cell apoptosis analysis: Cells were pretreated with different treatments including H₂O₂ (20 μ M), CaPB (240 μ g/mL) with H₂O₂, LPS (10 μ g/mL), CaPB (240 μ g/mL) with LPS and negative control (PBS). After the treatment, the cells were digested by pancreatin for the preparation of single cell suspension. After centrifugation of suspension, the cells were treated by 1 mL 70% ethanol for 2 h at 4 °C. Then, the PI solution (10 μ L) and RNase solution (10 μ L) were added into the staining solution (0.5 mL) for the cells staining. Every sample was treated with 0.5 mL staining solution and incubated for 30 min in the dark. The cell cycle analysis was conducted using FACS Canto II in 5 h.

Mitochondrial membrane potential: Cells were incubated with H₂O₂ (20 µM), CaPB (240 µg/mL) with H₂O₂, LPS (100 µg/mL), CaPB (240 µg/mL) with LPS and negative control (PBS) for 4 h. Then, the cells were cultured by medium containing JC-1 dye (10 µg/mL) for 20 min at 37 °C and 5% CO₂ in a constant temperature incubator. The pre-treated cells were washed by fresh medium, incubated in fresh culture medium, and visualized using CarlZeiss LSM710. JC-1 monomers were activated with an excitation wavelength of 488 nm and 525 nm emission wavelength; JC-1 aggregates were excited at 550 nm and detected at 600 nm.

Live/dead assay of cells: Before the preparation of the dye, the 10X assay buffer was diluted to 1X assay buffer by ddH₂O. Then, 5 µL of Calcein-AM solution and 15 µL of propidium iodide solution were added to the 5 mL 1X assay buffer for the preparation of fluorescent dyes. After different kinds of pre-treatment, the cells were washed by PBS for 3 times to remove the culture medium. The fluorescent dyes were co-cultured with the cells for 15 min and then washed by the PBS for 3 times. Finally, the fluorescence images were conducted using CarlZeiss LSM710.

EdU analysis for cell proliferation: Cells were cultured in 6-well plates and incubated overnight. Then, the cells in different subgroups were treated with H₂O₂ (20 µM), CaPB (240 µg/mL) with H₂O₂, LPS (100 µg/ml), CaPB (240 µg/mL) with LPS and negative control (PBS) for 4 h. The pre-treated cells with kinds of conditions were incubated with 10 µM EdU for 2 h at 37 °C, fixed in paraformaldehyde (4%), permeabilized in Triton X-100 (0.5%) in PBS buffer, washed by PBS, incubated with AlexaFluor-488 in dark, and counterstained by DAPI, and finally EdU-labeled DNA was visualized using Leica DM6 B.

Induction of IR-induced AKI models: Balb/c mice (male, 6 weeks, 20 to 25g) were purchased from Shanghai Slac Laboratory Animal Co. Ltd and breed in the Experimental Animal Center of Tongji University in Shanghai. The mice were raised with free access to standard feed and water in a 12 h dark-light cycle and the ambient conditions of room temperature (20 ~ 24 °C), relative humidity (45 ~ 55%). All animal experiments were conducted in accordance with the National Institutes of Health Guide for the Care and Use of Laboratory Animals and approved by the Ethics Committee of Shanghai Tenth People's Hospital, School of Medicine, Tongji University. Mice were anesthetized through intraperitoneal administration of 1% pentobarbital sodium with

the concentration of 50 mg/kg. Renal ischemia was induced through clamping of the renal pedicles in the left kidney. During the ischemic progress, mice were placed on a 37 °C heating table to maintain the body temperature. After 30 min, clamps of pedicles were released in AKI group (n = 6) while the control group (n = 6) was treated with sham operation. Subsequently, the AKI mice were conducted intravenously administration of CaPB at the concentration of 20 mg/kg in day 1, 3, 5 after the IR. And the AKI kidneys were harvested at day 7 after operation for mRNA-seq. The total RNA was extracted by the TRIZOL and further quantified by NanoDrop 2000 spectrophotometer, and the high-quality RNA sample ($OD_{260/280} = 1.8\sim 2.2$, $OD_{260/230} \geq 2.0$, $RIN \geq 6.5$, $28S:18S \geq 1.0$, $> 1\mu g$) was applied in the next sequencing.

Immunohistochemical staining for AKI injury: For the examination of morphologic and histological features, the kidney tissues were fixed by 4% paraformaldehyde and then embedded in paraffin, cut into sections after the dehydration. The sections were sealed with 5% goat serum solution for half an hour and incubated with 3% H_2O_2 for 20 min to inhibit the endogenous peroxidase. Then the sections were incubated with primary antibodies including anti-GPx4 antibody, anti-ACSL4 antibody, anti-PTGS2 antibody, anti-CD68 antibody and anti-3-Nitrotyrosine antibody for overnight at 4 °C. The next day, the horseradish peroxidase-labeled secondary antibody (1:500) was incubated with the slides at room temperature for 2 h. Finally, the images were captured through Leica DM6 B.

Statistical analysis: All data in this study were recorded as mean \pm standard deviation (SD). Student's t tests were performed to analyze the statistical results. A P-value < 0.05 was considered to be statistically significant. The data was analyzed by using SPSS 20.0 (SPSS Inc., Chicago, IL) and R (version 3.5.1).

Supplementary figures and tables

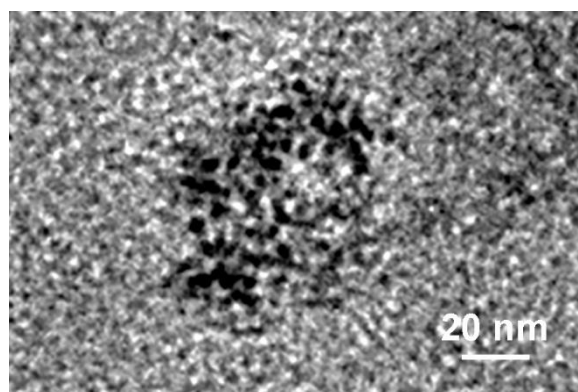


Figure S1 TEM image of CaPB NPs after concentration.

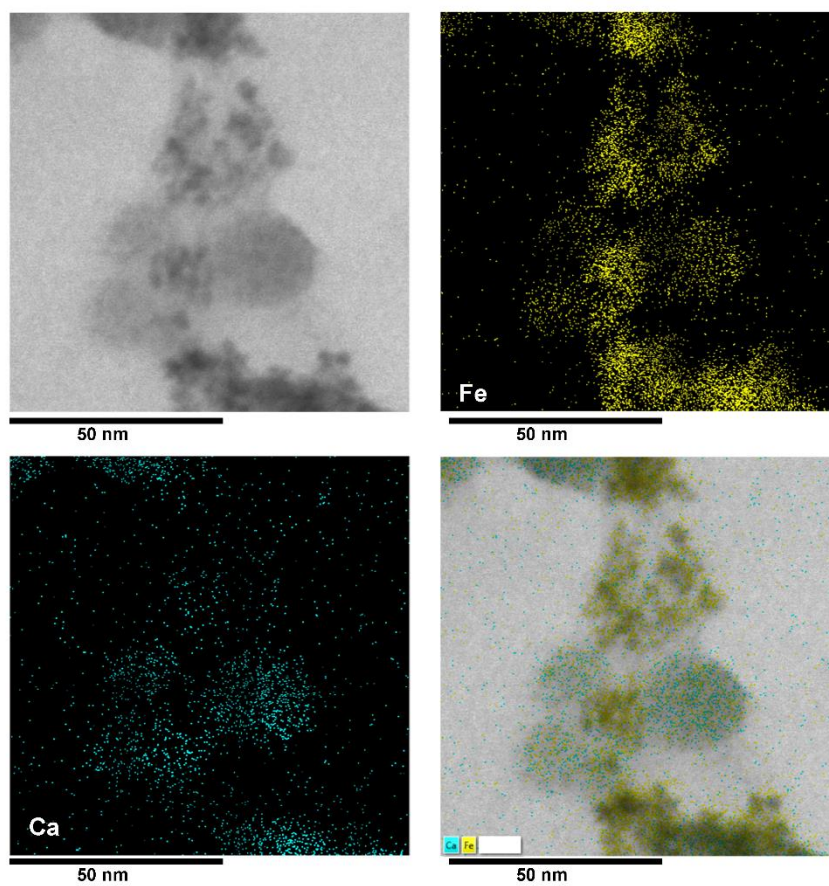


Figure S2 STEM with EDS mapping of CaPB NPs.

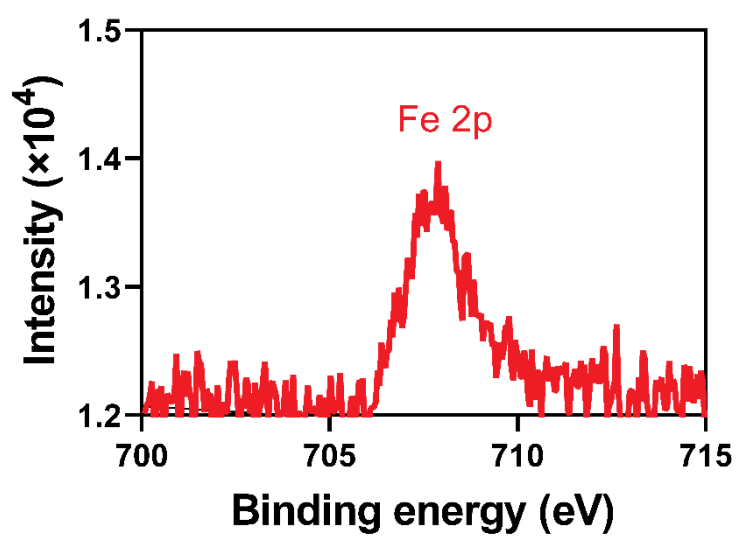


Figure S3 The XPS spectrum of Fe element in CaPB NPs.

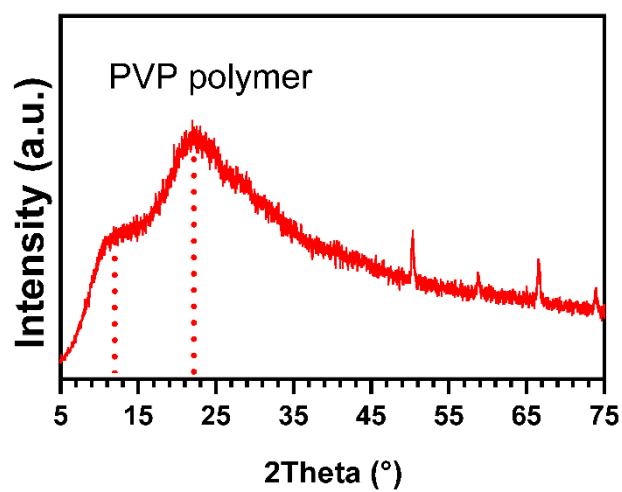


Figure S4 The XRD pattern of CaPB NPs.

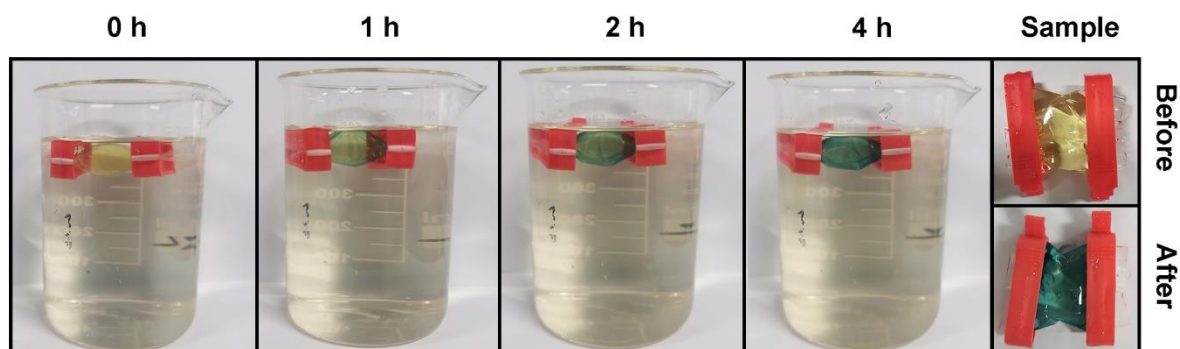


Figure S5 The color changes of CaPB NPs in the dialysis bag through a Fe ion-exchange reaction during the time of 4 h with the sample before/after reaction in the right.

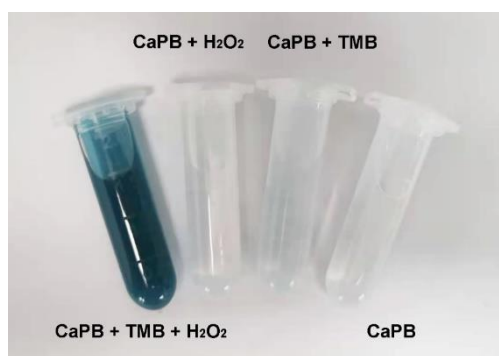


Figure S6 The digital photos of different solutions in the POD-like activity test.

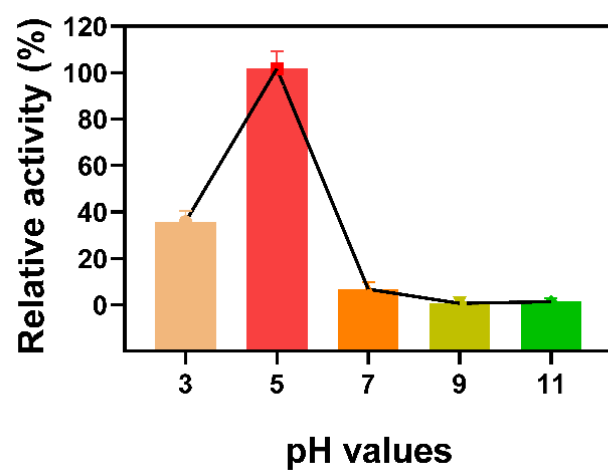


Figure S7 The changes of the POD-like activity of CaPB nanozymes *versus* pH.

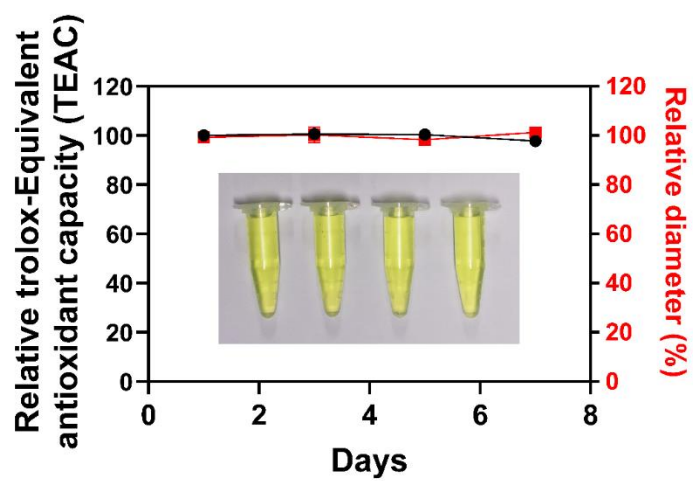


Figure S8 The relative total antioxidative ability and diameter changes in different times in H₂O.

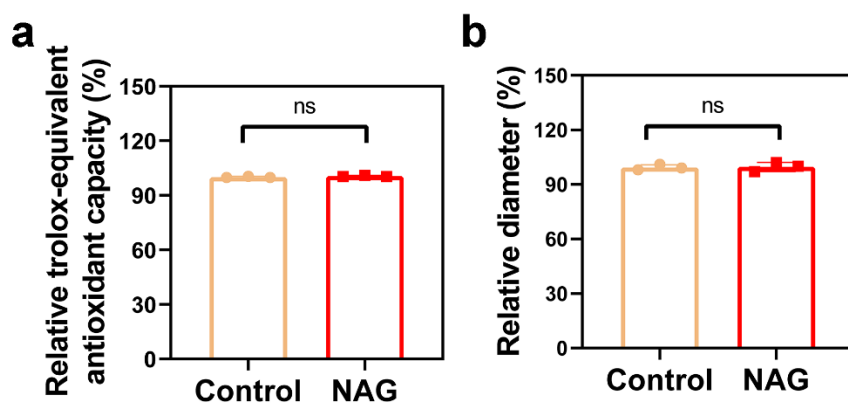


Figure S9 The relative total antioxidative ability and diameter changes in the presence of NAG (100 U/L).

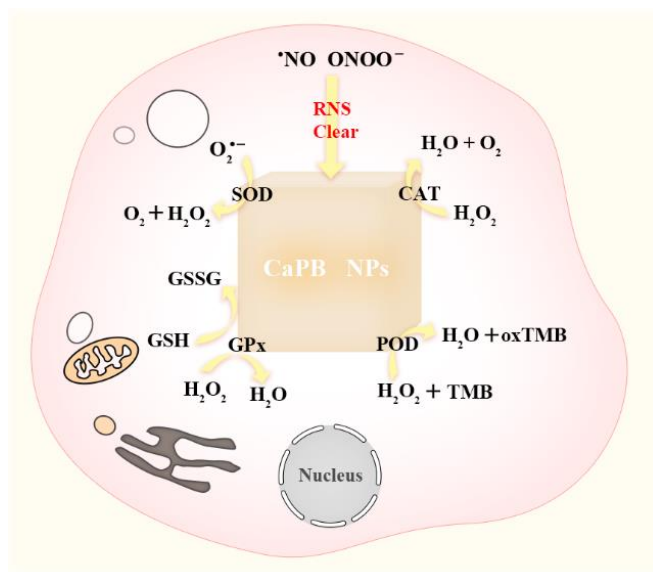


Figure S10 Schematic illustration of CaPB nanozymes as multienzyme mimetics.

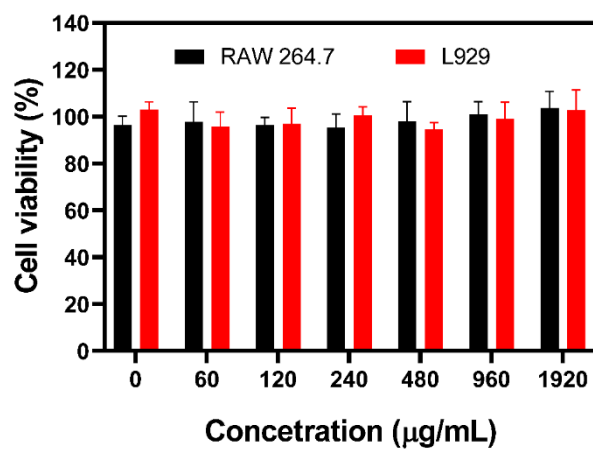


Figure S11 The cell viability of RAW 264.7 and L929 cells incubated with CaPB nanozymes at different concentrations for 24 h (n = 6, data represent means \pm SD).

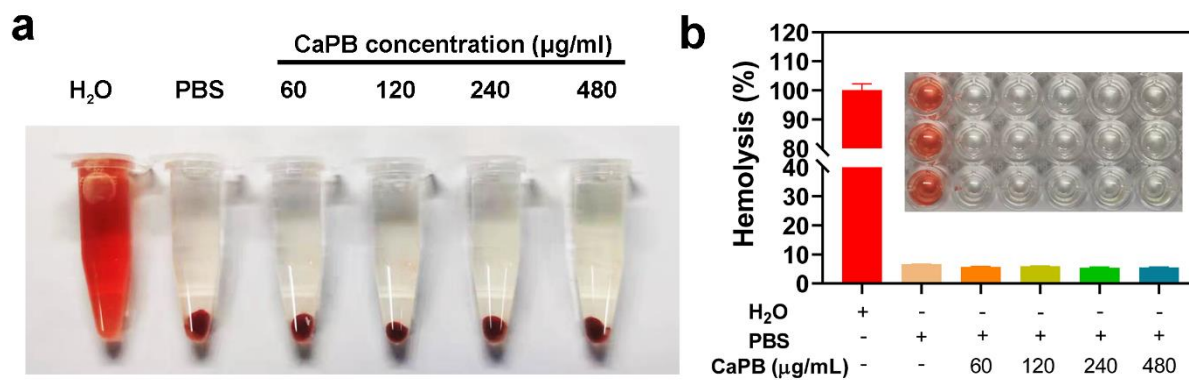


Figure S12 (a) The hemolysis of blood cells in the different concentrations of CaPB treatments. (b) The ratio of hemolysis in the subgroups.

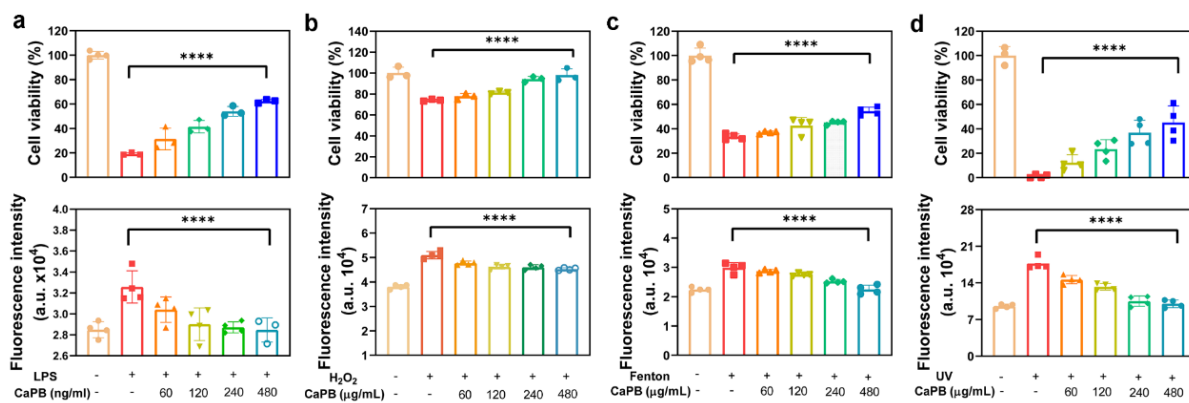


Figure S13 CaPB nanozymes protecting RAW 264.7 cells from the oxidative stress caused by (a) LPS, (b) H₂O₂, (c) Fenton reagent, and (d) UVA irradiation (n = 3, data represent means ± SD, *****p* < 0.0001).

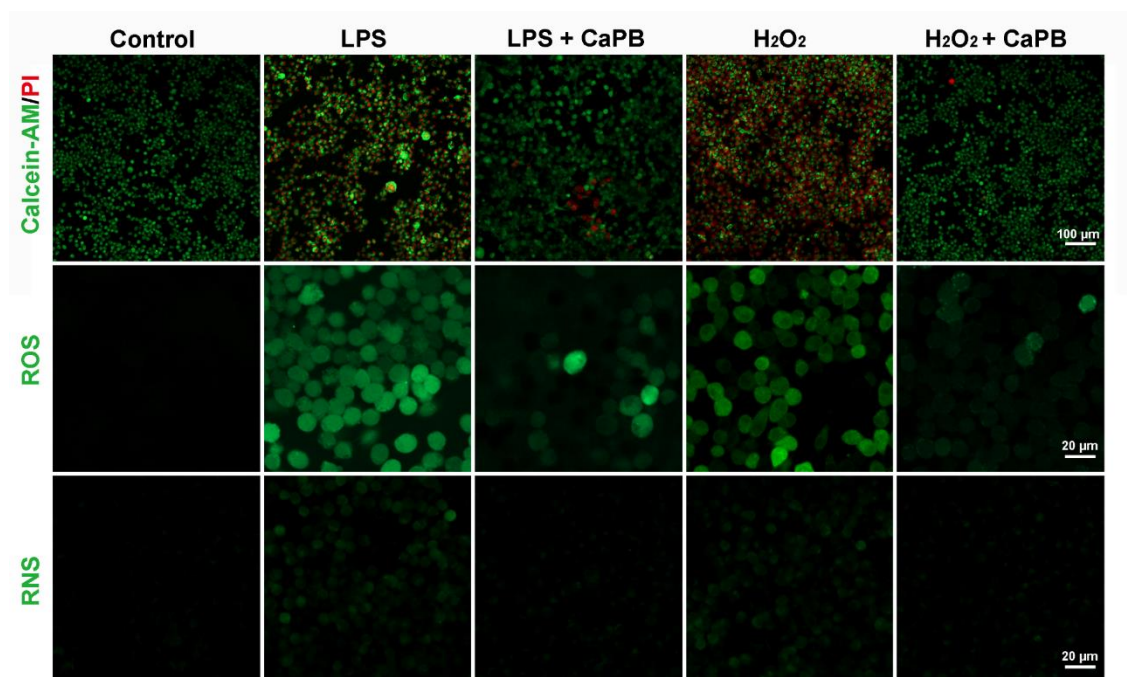


Figure S14 CLSM images of RAW 264.7 cells after different treatments stained with Calcein-AM/PI, DCFH-DA and DAF-FM DA.

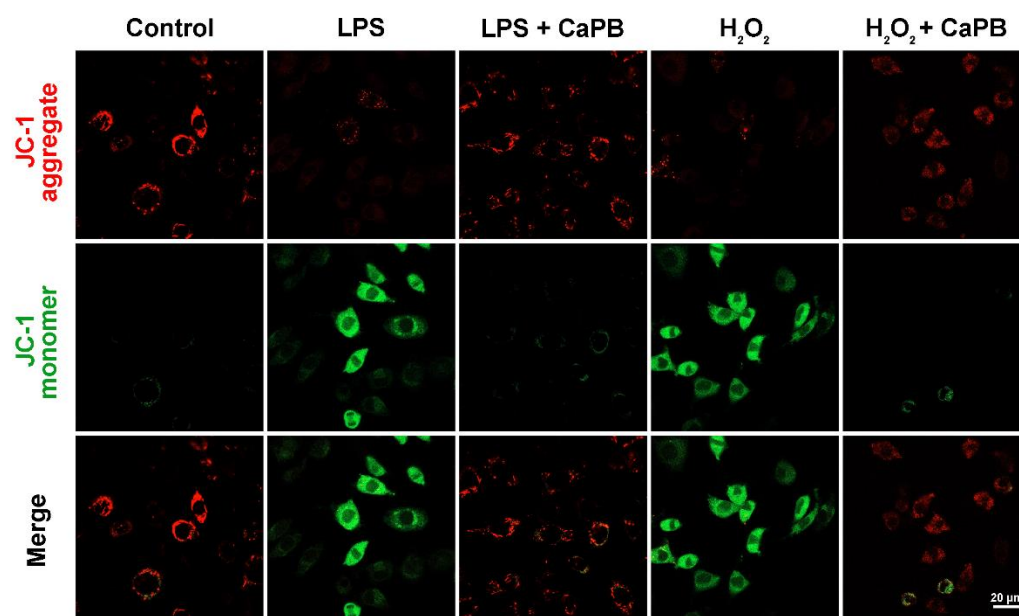


Figure S15 CLSM images of L929 cells after different treatments stained with JC-1 for the evaluation of CaPB protective effect on mitochondrial membrane depolarization.

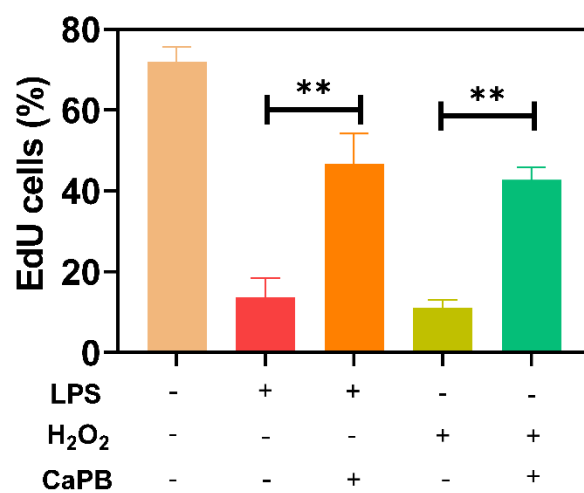


Figure S16 Corresponding quantitative analysis of RAW 264.7 cells after different treatments stained with EdU (n = 3, data represent means \pm SD, $**p < 0.01$).

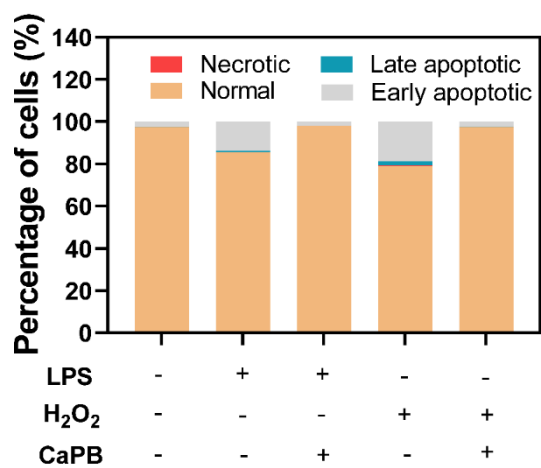


Figure S17 Corresponding statistical analysis of RAW 264.7 cell apoptosis after different treatments.

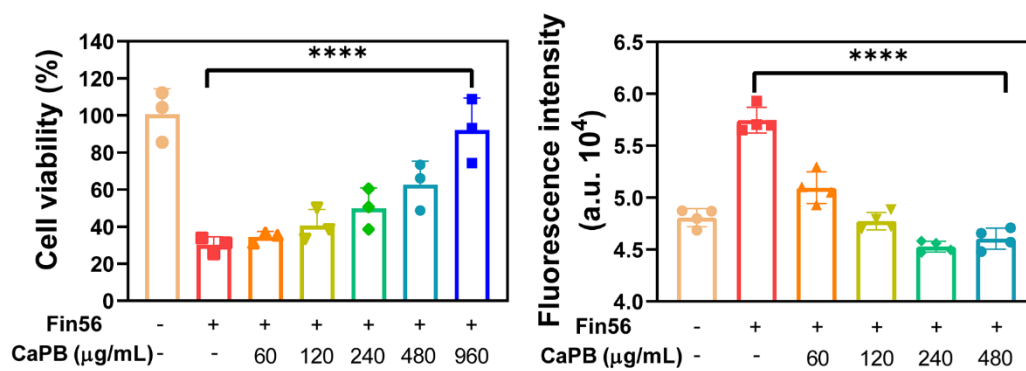


Figure S18 CaPB nanozymes protecting L929 cells from Fin 56-induced oxidative damage (n = 3, data represent means ± SD, **** $p < 0.0001$).

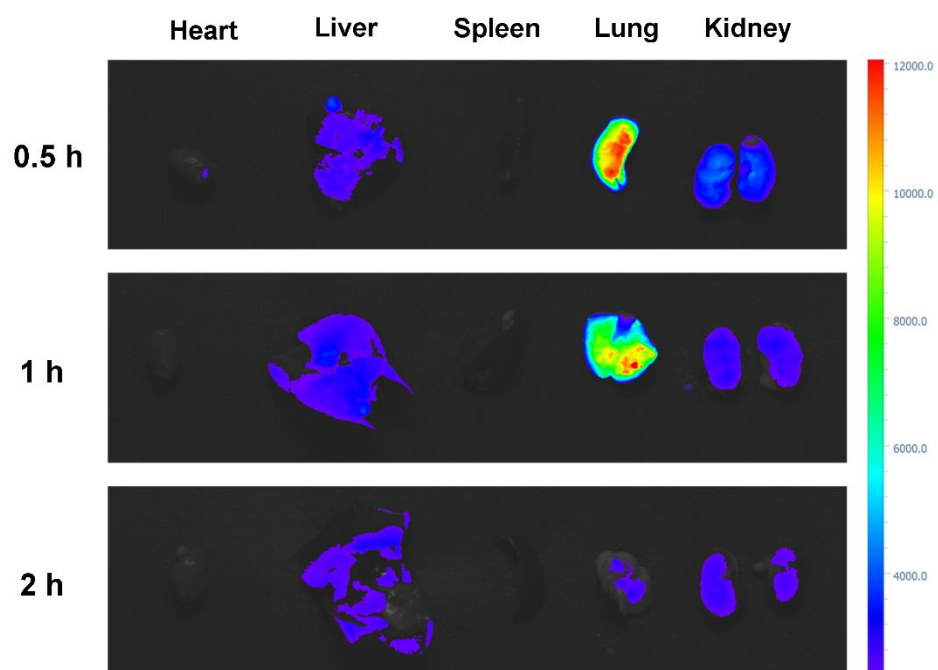


Figure S19 Fluorescence signal of Cy5.5@CaPB in organs of mice after *i.v.* injection at 0.5, 1 and 2 h.

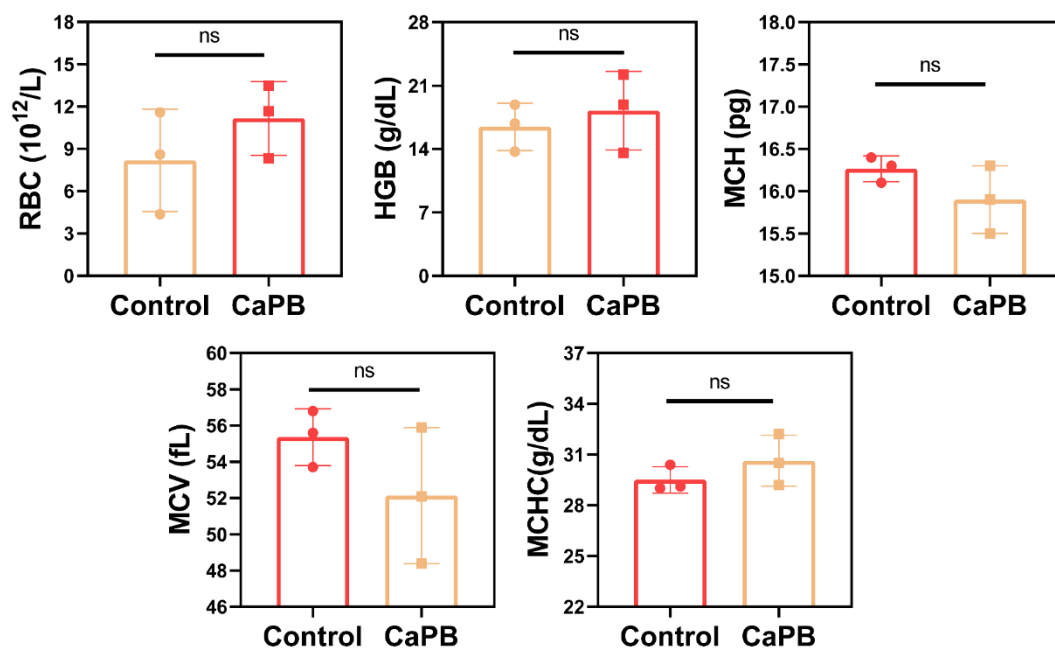


Figure S20 Red blood cells (RBC), hemoglobin (HGB), mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), and mean corpuscular hemoglobin concentration (MCHC) in healthy mice before and after *i.v.* injection of CaPB nanozymes ($n = 3$, data represent means \pm SD, ns represented no statistical difference).

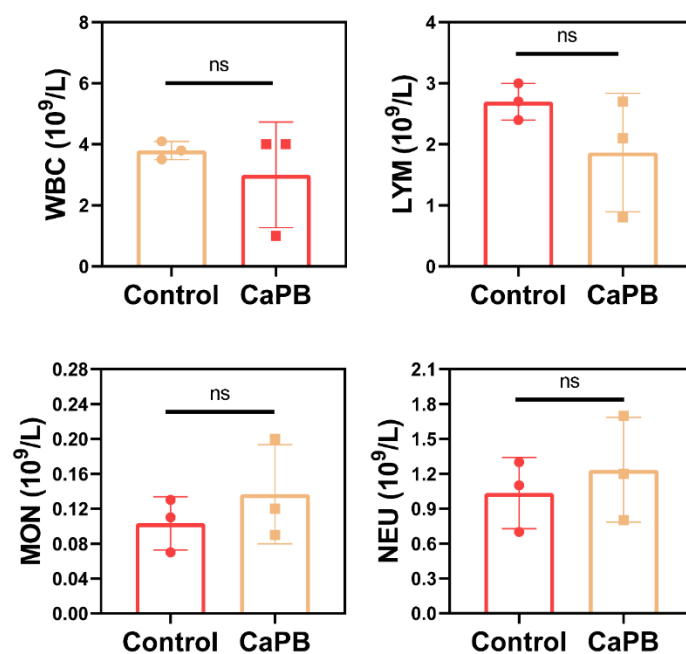


Figure S21 White blood cells (WBC), lymphocytes (LYM), monocytes (MON), and neutrophils (NEU) in healthy mice before and after *i.v.* injection of CaPB nanozymes ($n = 3$, data represent means \pm SD, ns represents no statistical difference).

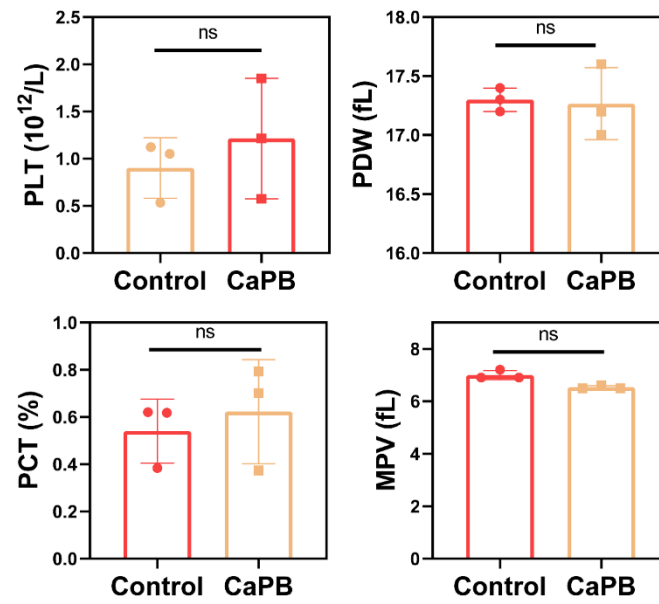


Figure S22 Platelets (PLT) and mean platelet volume (MPV), platelet distribution width (PDW) and plateletcrit (PCT) in healthy mice before and after *i.v.* injection of CaPB NPs ($n = 3$, data represent means \pm SD, ns represents no statistical difference).

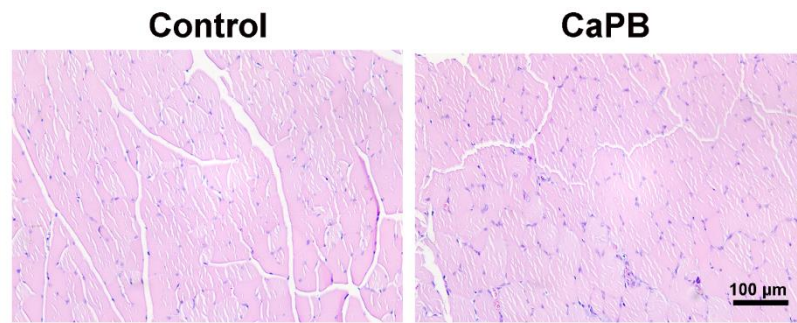


Figure S23 H&E staining of tibialis anterior muscle after different treatments.

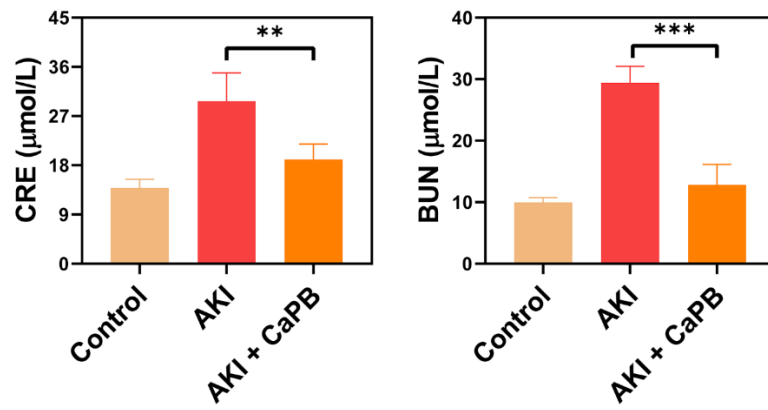


Figure S24 Serum analysis of CRE, and BUN in AKI mice after different treatments (n = 6, data represent means \pm SD, ** $p < 0.01$ and *** $p < 0.001$).

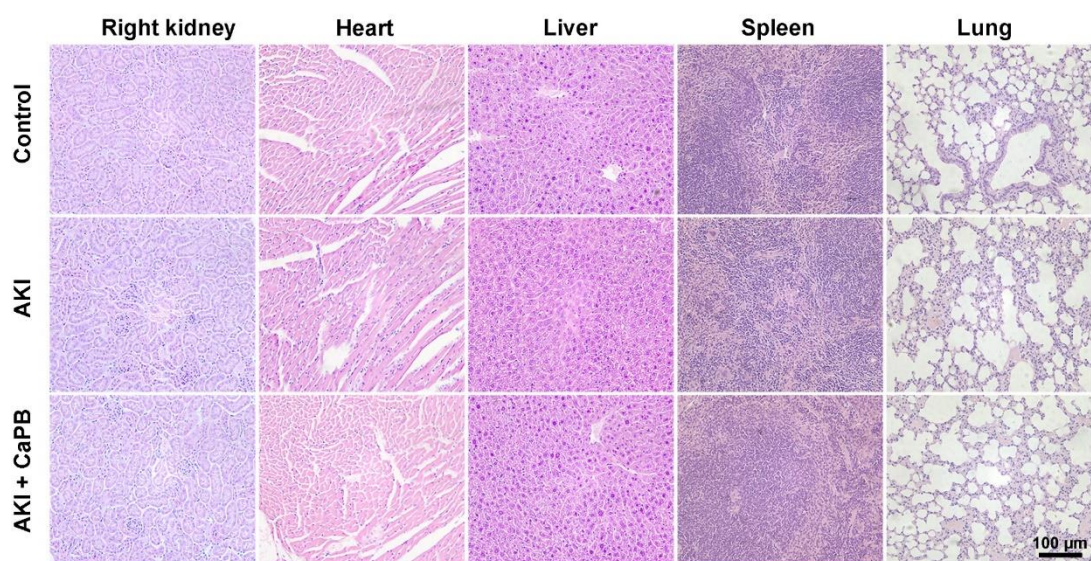


Figure S25 H&E staining of right kidney, heart, liver, spleen, and lung in AKI mice after different treatments.

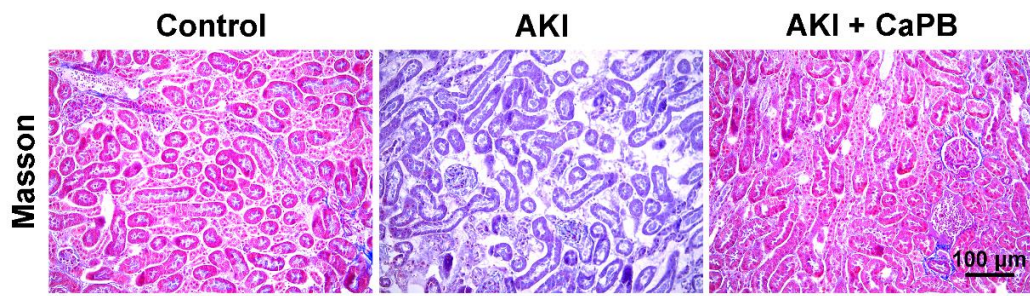


Figure S26 Masson staining of kidney in AKI mice after different treatments.

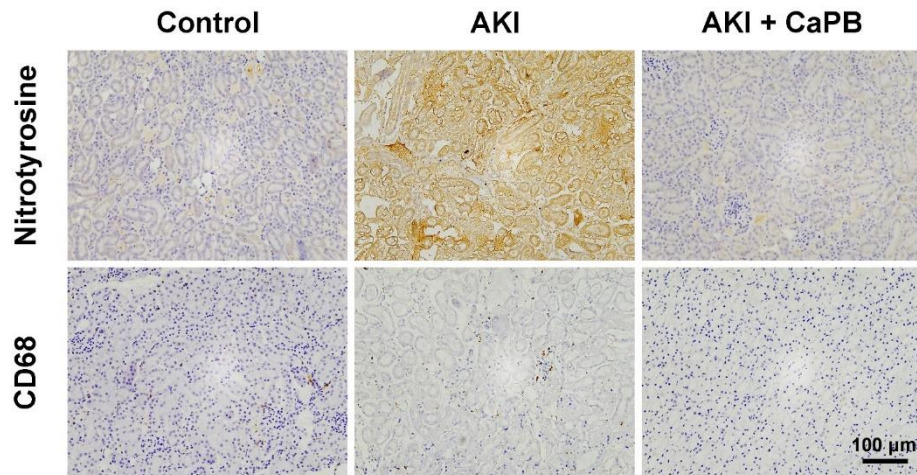


Figure S27 Immunohistochemical staining of Nitrotyrosine and CD68 (both brown) in AKI mice after different treatments.

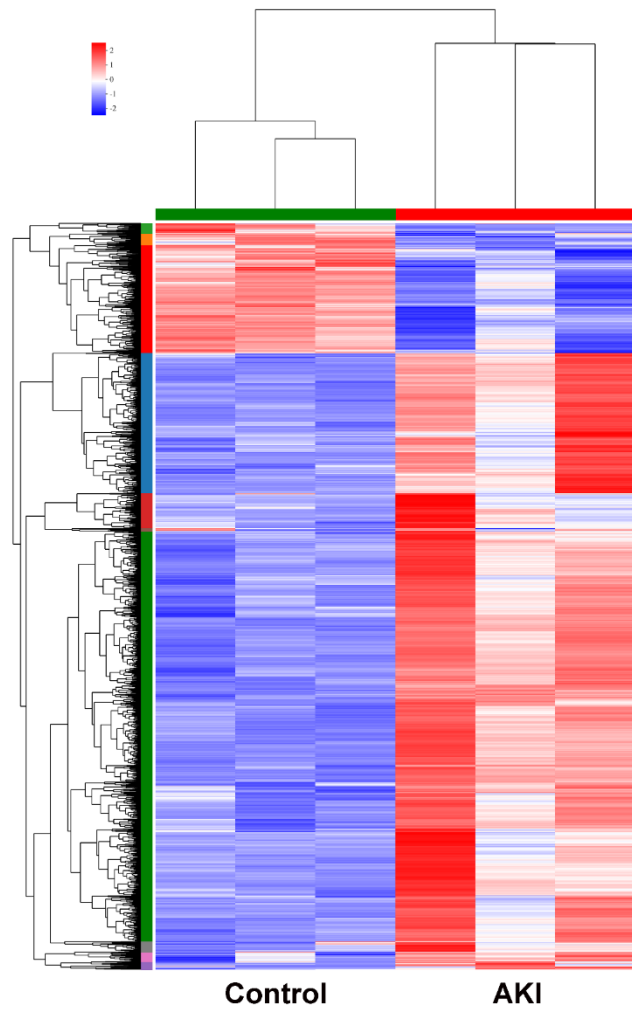


Figure S28 Heatmap diagram of transcriptomic profiles of the 1560 different expression genes between control and AKI groups.

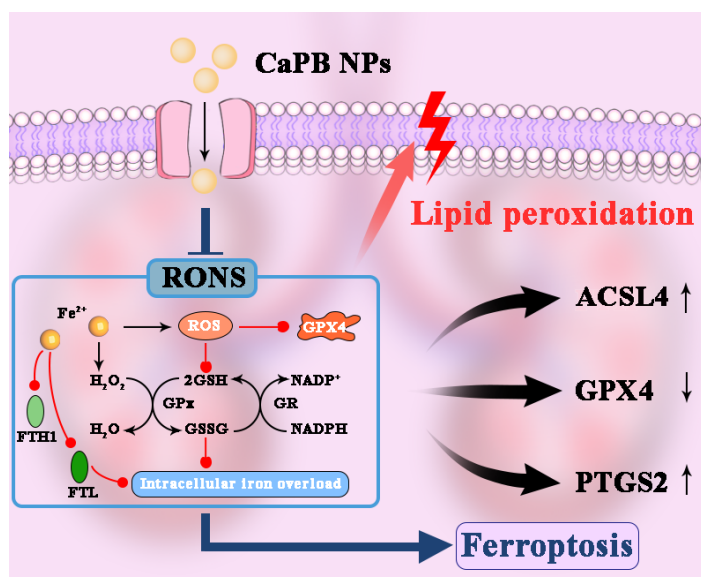


Figure S29 Schematic illustration of the functions of CaPB nanozymes as the ferroptosis inhibitor.

Table S1 List of 308 different expression genes between AKI and CaPB-treated groups.

ID	Gene_name	P-Value
ENSMUSG00000000318	Clec10a	0.012126
ENSMUSG00000000753	Serpinf1	0.007083
ENSMUSG00000001228	Uhrf1	0.032812
ENSMUSG00000002835	Chaf1a	0.043877
ENSMUSG00000002997	Prkar2b	0.019968
ENSMUSG00000003484	Cyp4f18	0.041161
ENSMUSG00000003665	Has1	0.043405
ENSMUSG00000004098	Col5a3	0.024738
ENSMUSG00000004371	Il11	0.020333
ENSMUSG00000005233	Spc25	0.034737
ENSMUSG00000005800	Mmp8	0.012853
ENSMUSG00000006398	Cdc20	0.03613
ENSMUSG00000007097	Atp1a2	0.022132
ENSMUSG00000008153	Clstn3	0.043094
ENSMUSG00000009185	Ccl8	0.048515
ENSMUSG00000012428	Steap4	0.008823
ENSMUSG00000015451	C4a	0.028504
ENSMUSG00000015533	Itga2	0.039556
ENSMUSG00000015854	Cd5l	0.013504
ENSMUSG00000015880	Ncapg	0.043309
ENSMUSG00000017724	Etv4	0.003639
ENSMUSG00000017737	Mmp9	0.006753
ENSMUSG00000018861	Fdxr	0.003637
ENSMUSG00000019326	Aoc3	0.008679
ENSMUSG00000019942	Cdk1	0.040496
ENSMUSG00000019960	Dusp6	0.033228
ENSMUSG00000019987	Arg1	0.004486
ENSMUSG00000019997	Ccn2	0.012374
ENSMUSG00000020077	Srgn	0.043881
ENSMUSG00000020205	Phlda1	0.041592
ENSMUSG00000020241	Col6a2	0.034512
ENSMUSG00000020385	Clk4	0.011057
ENSMUSG00000020427	Igfbp3	0.045048
ENSMUSG00000020482	Ccdc117	0.012627
ENSMUSG00000020649	Rrm2	0.012203
ENSMUSG00000021091	Serpina3n	0.003031
ENSMUSG00000021136	Smoc1	0.018033
ENSMUSG00000021194	Chga	2.57E-05
ENSMUSG00000021250	Fos	0.01635
ENSMUSG00000021268	Meg3	0.035433
ENSMUSG00000021388	Aspn	0.00831
ENSMUSG00000021453	Gadd45g	0.012049
ENSMUSG00000021569	Trip13	0.042173
ENSMUSG00000021640	Naip1	0.005406
ENSMUSG00000021678	F2rl1	0.020573

ENSMUSG00000021903	Galnt15	0.030317
ENSMUSG00000021983	Atp8a2	0.012146
ENSMUSG00000022322	Shcbp1	0.03826
ENSMUSG00000022367	Has2	0.026602
ENSMUSG00000022385	Gtse1	0.045145
ENSMUSG00000022840	Adcy5	0.04418
ENSMUSG00000022945	Chaf1b	0.03309
ENSMUSG00000022949	Clic6	0.043345
ENSMUSG00000023064	Sncg	0.009888
ENSMUSG00000023336	Wfdc1	0.04898
ENSMUSG00000024112	Cacna1h	0.029492
ENSMUSG00000024173	Tpsab1	0.022993
ENSMUSG00000024486	Hbegf	0.041821
ENSMUSG00000024521	Pmaip1	0.008144
ENSMUSG00000024552	Slc14a2	0.020281
ENSMUSG00000024661	Fth1	0.024779
ENSMUSG00000024803	Ankrd1	0.037065
ENSMUSG00000024972	Lgals12	0.047006
ENSMUSG00000024989	Cep55	0.043654
ENSMUSG00000025001	Hells	0.013151
ENSMUSG00000025161	Slc16a3	0.01398
ENSMUSG00000025574	Tk1	0.043967
ENSMUSG00000025746	Il6	0.000377
ENSMUSG00000025964	Adam23	0.000551
ENSMUSG00000026034	Clk1	0.017592
ENSMUSG00000026051	Ecrq4	0.002173
ENSMUSG00000026068	Il18rap	0.033625
ENSMUSG00000026073	Il1r2	0.032591
ENSMUSG00000026166	Ccl20	0.007347
ENSMUSG00000026180	Cxcr2	0.032716
ENSMUSG00000026355	Mcm6	0.032567
ENSMUSG00000026574	Dpt	0.005428
ENSMUSG00000026955	Sapcd2	0.03508
ENSMUSG00000027022	Xirp2	0.039344
ENSMUSG00000027238	Frmd5	0.011208
ENSMUSG00000027326	Kn11	0.047822
ENSMUSG00000027331	Knstrn	0.043173
ENSMUSG00000027333	Smox	0.049733
ENSMUSG00000027398	Il1b	0.013033
ENSMUSG00000027469	Tpx2	0.033684
ENSMUSG00000027496	Aurka	0.038077
ENSMUSG00000027602	Map1lc3a	0.023281
ENSMUSG00000027699	Ect2	0.023272
ENSMUSG00000027715	Ccna2	0.027358
ENSMUSG00000027750	Postn	0.016473
ENSMUSG00000027832	Ptx3	0.00062
ENSMUSG00000027996	Sfrp2	0.000693

ENSMUSG00000028068	Iqgap3	0.043424
ENSMUSG00000028072	Ntrk1	0.033046
ENSMUSG00000028175	Depdc1a	0.021077
ENSMUSG00000028195	Ccn1	0.012526
ENSMUSG00000028212	Ccne2	0.026402
ENSMUSG00000028217	Cdh17	0.025236
ENSMUSG00000028362	Tnfsf8	0.035714
ENSMUSG00000028587	Orc1	0.03362
ENSMUSG00000028655	Mfsd2a	0.03916
ENSMUSG00000028970	Abcb1b	0.021027
ENSMUSG00000029096	Htra3	0.049743
ENSMUSG00000029334	Prkg2	0.015773
ENSMUSG00000029372	Ppbb	0.007401
ENSMUSG00000029377	Ereg	0.006231
ENSMUSG00000029379	Cxcl3	0.000635
ENSMUSG00000029380	Cxcl1	0.035721
ENSMUSG00000029650	Slc46a3	0.041941
ENSMUSG00000029804	Herc3	0.018096
ENSMUSG00000029816	Gpmb	0.025637
ENSMUSG00000030093	Wnt7a	0.042695
ENSMUSG00000030483	Cyp2b10	0.005976
ENSMUSG00000030680	Pagr1a	0.048991
ENSMUSG00000030683	Sez6l2	0.049945
ENSMUSG00000031028	Tub	0.015485
ENSMUSG00000031278	Acsl4	0.01057
ENSMUSG00000031302	Nlgn3	0.021168
ENSMUSG00000031444	F10	0.024606
ENSMUSG00000031494	Cd209a	0.035849
ENSMUSG00000031519	Asb5	0.022507
ENSMUSG00000031574	Star	2.23E-05
ENSMUSG00000031841	Cdh13	0.019997
ENSMUSG00000032051	Fdx1	0.049557
ENSMUSG00000032083	Apoa1	0.046486
ENSMUSG00000032113	Chek1	0.022258
ENSMUSG00000032254	Kif23	0.039808
ENSMUSG00000032271	Nnmt	0.01649
ENSMUSG00000032401	Lctl	0.019245
ENSMUSG00000032487	Ptgs2	3.34E-16
ENSMUSG00000032496	Ltf	0.001273
ENSMUSG00000033327	Tnxb	0.049482
ENSMUSG00000033377	Palmd	0.018151
ENSMUSG00000033491	Prss35	0.027159
ENSMUSG00000033508	Asprv1	0.045546
ENSMUSG00000033576	Apol6	0.032964
ENSMUSG00000033578	Tmem35a	0.039128
ENSMUSG00000033860	Fgg	0.024766
ENSMUSG00000034206	Polq	0.036931

ENSMUSG00000034394	Lif	0.018725
ENSMUSG00000034765	Dusp5	0.047114
ENSMUSG00000034858	Fam214a	0.02305
ENSMUSG00000035105	Egln3	0.003308
ENSMUSG00000035864	Syt1	0.008189
ENSMUSG00000036202	Rif1	0.03781
ENSMUSG00000036295	Lrrn3	0.030166
ENSMUSG00000036412	Arsi	0.014546
ENSMUSG00000036523	Greb1	0.030361
ENSMUSG00000036777	Anln	0.023952
ENSMUSG00000036834	Plch1	0.042005
ENSMUSG00000037071	Scd1	0.000789
ENSMUSG00000037095	Lrg1	0.028106
ENSMUSG00000037161	Mgarp	0.007136
ENSMUSG00000037411	Serpine1	0.017276
ENSMUSG00000037664	Cdkn1c	0.018858
ENSMUSG00000037808	Fam76b	0.043574
ENSMUSG00000037936	Scarb1	0.009768
ENSMUSG00000038112	AW551984	0.046581
ENSMUSG00000038193	Hand2	0.043138
ENSMUSG00000038418	Egr1	0.007261
ENSMUSG00000038508	Gdf15	0.025312
ENSMUSG00000038541	Srd5a2	5.25E-05
ENSMUSG00000038943	Prc1	0.028434
ENSMUSG00000039196	Orm1	0.006566
ENSMUSG00000039385	Cdh6	0.025497
ENSMUSG00000039463	Slc9a8	0.017879
ENSMUSG00000039519	Cyp7b1	0.009322
ENSMUSG00000039661	Dusp26	0.045629
ENSMUSG00000039748	Exo1	0.04708
ENSMUSG00000039883	Lrrc17	0.006907
ENSMUSG00000039956	Mrap	0.015412
ENSMUSG00000040035	Disp2	0.003986
ENSMUSG00000040204	Pclaf	0.04795
ENSMUSG00000040323	Gm15429	0.001832
ENSMUSG00000040809	Chil3	0.035724
ENSMUSG00000040856	Dlk1	0.003112
ENSMUSG00000041219	Arhgap11a	0.025369
ENSMUSG00000041324	Inhba	0.012978
ENSMUSG00000041431	Ccnb1	0.032746
ENSMUSG00000041498	Kif14	0.042168
ENSMUSG00000041548	Hspb8	0.010585
ENSMUSG00000042367	Gjb3	0.041409
ENSMUSG00000044103	Il1f9	0.037613
ENSMUSG00000044288	Cnr1	0.016644
ENSMUSG00000044461	Shisa2	0.038061
ENSMUSG00000045294	Insig1	0.043043

ENSMUSG00000045328	Cenpe	0.046193
ENSMUSG00000045534	Kcna5	0.020373
ENSMUSG00000045545	Krt14	0.009913
ENSMUSG00000045569	Mc2r	0.00062
ENSMUSG00000046203	Sprr2g	0.043301
ENSMUSG00000046275	Trarg1	0.021287
ENSMUSG00000046711	Hmga1	0.042491
ENSMUSG00000047842	Diras2	0.004806
ENSMUSG00000048040	Arxes2	0.043376
ENSMUSG00000048330	Ric3	0.034422
ENSMUSG00000048355	Arxes1	0.015252
ENSMUSG00000049265	Kcnk3	0.003397
ENSMUSG00000049336	Tenm2	0.043887
ENSMUSG00000049420	Tmem200a	0.033373
ENSMUSG00000050069	Grem2	0.04943
ENSMUSG00000050132	Sarm1	0.015301
ENSMUSG00000050635	Sprr2f	0.005403
ENSMUSG00000050762	Prss27	0.037027
ENSMUSG00000051111	Sv2c	0.047236
ENSMUSG00000051314	Ffar2	0.024491
ENSMUSG00000052131	Akr1b7	0.0004
ENSMUSG00000052133	Sema5b	0.039945
ENSMUSG00000052305	Hbb-bs	0.017626
ENSMUSG00000052414	Gm28047	1.56E-07
ENSMUSG00000053113	Socs3	0.035392
ENSMUSG00000054203	Ifi205	0.025965
ENSMUSG00000054477	Kcnn2	0.012739
ENSMUSG00000054641	Mmrn1	0.041756
ENSMUSG00000054717	Hmgb2	0.038697
ENSMUSG00000055095	Spink6	0.040505
ENSMUSG00000055301	Adh7	0.020325
ENSMUSG00000055866	Per2	0.03009
ENSMUSG00000056054	S100a8	0.002201
ENSMUSG00000056071	S100a9	0.001681
ENSMUSG00000056148	Rdh9	0.00059
ENSMUSG00000056569	Mpz	0.019208
ENSMUSG00000058427	Cxcl2	0.008919
ENSMUSG00000058454	Dhcr7	0.005756
ENSMUSG00000058755	Osm	0.030052
ENSMUSG00000059201	Lep	0.010171
ENSMUSG00000059974	Ntm	0.024244
ENSMUSG00000061171	Slc38a11	0.049966
ENSMUSG00000061816	Myl1	0.045242
ENSMUSG00000061947	Serpina10	0.029905
ENSMUSG00000062296	Trank1	0.040754
ENSMUSG00000062488	Ifit3b	0.019102
ENSMUSG00000063412	Gm10131	0.000254

ENSMUSG00000063632	Sox11	0.025065
ENSMUSG00000063687	Pcdhb5	0.033573
ENSMUSG00000064147	Rab44	0.047693
ENSMUSG00000064246	Chil1	0.037251
ENSMUSG00000066361	Serpina3c	0.020423
ENSMUSG00000066687	Zbtb16	1.09E-10
ENSMUSG00000067786	Nnat	0.012408
ENSMUSG00000068122	Agtr2	0.049629
ENSMUSG00000068399	Gm7247	0.001246
ENSMUSG00000068606	Gm4841	0.044626
ENSMUSG00000069171	Nr2f1	0.044598
ENSMUSG00000069763	Tmem100	0.015561
ENSMUSG00000069917	Hba-a2	0.019649
ENSMUSG00000069919	Hba-a1	0.008692
ENSMUSG00000072109	A530040E14Rik	0.038186
ENSMUSG00000073418	C4b	0.038438
ENSMUSG00000073555	Gm4951	0.043005
ENSMUSG00000073940	Hbb-bt	0.014197
ENSMUSG00000074183	Gsta1	0.002556
ENSMUSG00000074210	E130208F15Rik	0.004266
ENSMUSG00000074480	Mex3a	0.02031
ENSMUSG00000074657	Kif5a	0.028861
ENSMUSG00000074896	Ifit3	0.008087
ENSMUSG00000075014	Gm10800	0.007859
ENSMUSG00000075297	H60b	0.04522
ENSMUSG00000075312	Gm13597	1.96E-06
ENSMUSG00000075706	Gpx4	0.008525
ENSMUSG00000076258	Gm23935	0.003736
ENSMUSG00000078249	Hmga1b	0.008586
ENSMUSG00000078377	Gm4294	0.00014
ENSMUSG00000078686	Mup9	0.031317
ENSMUSG00000078886	Gm2026	0.00321
ENSMUSG00000078894	2210418O10Rik	0.046153
ENSMUSG00000079017	Ifi2712a	0.027428
ENSMUSG00000079018	Ly6c1	0.02028
ENSMUSG00000079362	Gm43302	0.035468
ENSMUSG00000079620	Muc4	0.01021
ENSMUSG00000081058	H3c15	0.046972
ENSMUSG00000081189	Hspd1-ps4	0.013956
ENSMUSG00000082016	Pgam1-ps2	0.022125
ENSMUSG00000084838	Gm10241	0.012357
ENSMUSG00000084854	Gm12678	0.031397
ENSMUSG00000085111	Ascl4	0.030369
ENSMUSG00000085334	Gm12940	0.027809
ENSMUSG00000086539	Gm16759	0.021125
ENSMUSG00000086564	Cd101	0.002912
ENSMUSG00000090665	Gad1-ps	0.004303

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ENSMUSG00000090996	Gm20458	0.013567
ENSMUSG00000091345	Col6a5	0.027548
ENSMUSG00000094595	Fsbp	0.043281
ENSMUSG00000094664	Rpl35a-ps6	0.041436
ENSMUSG00000095042	Gm12537	0.016444
ENSMUSG00000095186	Gm10718	0.021873
ENSMUSG00000096965	3300005D01Rik	0.003472
ENSMUSG00000097221	1810049J17Rik	0.007505
ENSMUSG00000097293	D630002J18Rik	0.000804
ENSMUSG00000097451	Rian	0.033447
ENSMUSG00000097743	Gm16973	0.006321
ENSMUSG00000099923	1700105P06Rik	0.016856
ENSMUSG00000100153	Ppp1ccb	0.002221
ENSMUSG00000101698	Gm29562	0.016171
ENSMUSG00000102467	Gm37167	0.036699
ENSMUSG00000102500	Gm37371	0.000265
ENSMUSG00000104713	Gbp6	0.02245
ENSMUSG00000105053	Gm43064	0.02291
ENSMUSG00000105096	Gbp10	0.036287
ENSMUSG00000105357	Gm42647	0.045386
ENSMUSG00000107838	Gm45769	0.019245
ENSMUSG00000108158	Gm44002	0.023371
ENSMUSG00000110439	Mup22	0.005481
ENSMUSG00000111709	Gm3776	6.37E-05
ENSMUSG00000113136	Gm19951	0.045744
ENSMUSG00000113529	Gm47484	0.000249
ENSMUSG00000113780	Gm33195	0.023251

Table S2 List of ferroptosis related genes from FerrDB.

Symbol	Name	HGNC_ID
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
GPX4	Glutathione peroxidase 4	HGNC:4556
AKR1C1	Aldo-keto reductase family 1 member C1	HGNC:384
AKR1C2	Aldo-keto reductase family 1 member C2	HGNC:385
AKR1C3	Aldo-keto reductase family 1 member C3	HGNC:386
GPX4	Glutathione peroxidase 4	HGNC:4556
RB1	RB transcriptional corepressor 1	HGNC:9884
HSPB1	Heat shock protein family B (small) member 1	HGNC:5246
HSF1	Heat shock transcription factor 1	HGNC:5224
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
GPX4	Glutathione peroxidase 4	HGNC:4556
GCLC	Glutamate-cysteine ligase catalytic subunit	HGNC:4311
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
SQSTM1	Sequestosome 1	HGNC:11280
NQO1	NAD(P)H quinone dehydrogenase 1	HGNC:2874
HMOX1	Heme oxygenase 1	HGNC:5013
FTH1	Ferritin heavy chain 1	HGNC:3976
MUC1	Mucin 1, cell surface associated	HGNC:7508
SLC3A2	Solute carrier family 3 member 2	HGNC:11026
MT1G	Metallothionein 1G	HGNC:7399
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
SLC40A1	Solute carrier family 40 member 1	HGNC:10909
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
GPX4	Glutathione peroxidase 4	HGNC:4556

SLC7A11	Solute carrier family 7 member 11	HGNC:11059
CISD1	CDGSH iron sulfur domain 1	HGNC:30880
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
FANCD2	FA complementation group D2	HGNC:3585
GPX4	Glutathione peroxidase 4	HGNC:4556
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
FTMT	Ferritin mitochondrial	HGNC:17345
HSPA5	Heat shock protein family A (Hsp70) member 5	HGNC:5238
ATF4	Activating transcription factor 4	HGNC:786
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
GPX4	Glutathione peroxidase 4	HGNC:4556
GPX4	Glutathione peroxidase 4	HGNC:4556
HMOX1	Heme oxygenase 1	HGNC:5013
ATF4	Activating transcription factor 4	HGNC:786
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
TP53	Tumor protein p53	HGNC:11998
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
HELLS	Helicase, lymphoid specific	HGNC:4861
SCD	Stearoyl-CoA desaturase	HGNC:10571
FADS2	Fatty acid desaturase 2	HGNC:3575
SRC	SRC proto-oncogene, non-receptor tyrosine kinase	HGNC:11283
STAT3	Signal transducer and activator of transcription 3	HGNC:11364
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
PML	Promyelocytic leukemia	HGNC:9113
MTOR	Mechanistic target of rapamycin kinase	HGNC:3942
NFS1	NFS1 cysteine desulfurase	HGNC:15910
TP63	Tumor protein p63	HGNC:15979
SLC7A11	Solute carrier family 7 member 11	HGNC:11059
TP53	Tumor protein p53	HGNC:11998
CDKN1A	Cyclin dependent kinase inhibitor 1A	HGNC:1784
MIR137	microRNA 137	HGNC:31523
SLC40A1	Solute carrier family 40 member 1	HGNC:10909
GPX4	Glutathione peroxidase 4	HGNC:4556
GPX4	Glutathione peroxidase 4	HGNC:4556
ENPP2	Ectonucleotide pyrophosphatase/phosphodiesterase 2	HGNC:3357
VDAC2	Voltage dependent anion channel 2	HGNC:12672
FH	Fumarate hydratase	HGNC:3700
CISD2	CDGSH iron sulfur domain 2	HGNC:24212
SLC40A1	Solute carrier family 40 member 1	HGNC:10909
MIR9-1	microRNA 9-1	HGNC:31641
MIR9-2	microRNA 9-2	HGNC:31642
MIR9-3	microRNA 9-3	HGNC:31646
CBS	Cystathionine beta-synthase	HGNC:1550
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
SQSTM1	Sequestosome 1	HGNC:11280
GPX4	Glutathione peroxidase 4	HGNC:4556
ISCU	Iron-sulfur cluster assembly enzyme	HGNC:29882

FTH1	Ferritin heavy chain 1	HGNC:3976
ACSL3	Acyl-CoA synthetase long chain family member 3	HGNC:3570
OTUB1	OTU deubiquitinase, ubiquitin aldehyde binding 1	HGNC:23077
CD44	CD44 molecule (Indian blood group)	HGNC:1681
LINC00336	Long intergenic non-protein coding RNA 336	HGNC:33813
STAT3	Signal transducer and activator of transcription 3	HGNC:11364
BRD4	Bromodomain containing 4	HGNC:13575
PRDX6	Peroxiredoxin 6	HGNC:16753
MIR17	microRNA 17	HGNC:31547
SCD	Stearoyl-CoA desaturase	HGNC:10571
SESN2	Sestrin 2	HGNC:20746
NF2	Neurofibromin 2	HGNC:7773
ARNTL	Aryl hydrocarbon receptor nuclear translocator like	HGNC:701
HIF1A	Hypoxia inducible factor 1 subunit alpha	HGNC:4910
JUN	Jun proto-oncogene, AP-1 transcription factor subunit	HGNC:6204
CA9	Carbonic anhydrase 9	HGNC:1383
HSPA5	Heat shock protein family A (Hsp70) member 5	HGNC:5238
TMBIM4	Transmembrane BAX inhibitor motif containing 4	HGNC:24257
HSPA5	Heat shock protein family A (Hsp70) member 5	HGNC:5238
PLIN2	Perilipin 2	HGNC:248
MIR212	microRNA 212	HGNC:31589
Fer1HCH	Ferritin 1 Heavy Chain Homolog	_NA_
AIFM2	Apoptosis inducing factor mitochondria associated 2	HGNC:21411
AIFM2	Apoptosis inducing factor mitochondria associated 2	HGNC:21411
LAMP2	Lysosomal associated membrane protein 2	HGNC:6501
ZFP36	ZFP36 ring finger protein	HGNC:12862
GPX4	Glutathione peroxidase 4	HGNC:4556
PROM2	Prominin 2	HGNC:20685
CHMP5	Charged multivesicular body protein 5	HGNC:26942
CHMP6	Charged multivesicular body protein 6	HGNC:25675
AKR1C1	Aldo-keto reductase family 1 member C1	HGNC:384
AKR1C2	Aldo-keto reductase family 1 member C2	HGNC:385
AKR1C3	Aldo-keto reductase family 1 member C3	HGNC:386
CBS	Cystathionine beta-synthase	HGNC:1550
NFE2L2	Nuclear factor, erythroid 2 like 2	HGNC:7782
CAV1	Caveolin 1	HGNC:1527
GCH1	GTP cyclohydrolase 1	HGNC:4193

Table S3 List of immune related genes from InnateDB.

Name	Fullname	Ensembl
Map3k8	mitogen-activated protein kinase kinase kinase 8	ENSMUSG00000024235
Samd9l	sterile alpha motif domain containing 9-like	ENSMUSG00000047735
Sepp1	selenoprotein P, plasma, 1	ENSMUSG00000064373
Adcy3	adenylate cyclase 3	ENSMUSG00000020654
Card6	caspase recruitment domain family, member 6	ENSMUSG00000041849
Ttc33	tetratricopeptide repeat domain 33	ENSMUSG00000022151
Ptger4	prostaglandin E receptor 4 (subtype EP4)	ENSMUSG00000039942
Pon1	paraoxonase 1	ENSMUSG00000002588
Fkbp1b	FK506 binding protein 1b	ENSMUSG00000020635
Pon2	paraoxonase 2	ENSMUSG00000032667
Fyb	FYN binding protein	ENSMUSG00000022148
Ccny	cyclin Y	ENSMUSG00000024286
Apob	apolipoprotein B	ENSMUSG00000020609
Shfm1	split hand/foot malformation (ectrodactyly) type 1	ENSMUSG00000042541
Dlx6	distal-less homeobox 6	ENSMUSG00000029754
Asns	asparagine synthetase	ENSMUSG00000029752
Lyn	Yamaguchi sarcoma viral (v-yes-1) oncogene homolog	ENSMUSG00000042228
Chka	choline kinase alpha	ENSMUSG00000024843
Sdc1	syndecan 1	ENSMUSG00000020592

Net1	neuroepithelial cell transforming gene 1	ENSMUSG00000021215
Cyp7a1	cytochrome P450, family 7, subfamily a, polypeptide 1	ENSMUSG00000028240
Tmem106b	transmembrane protein 106B	ENSMUSG00000029571
Sdcbp	syndecan binding protein	ENSMUSG00000028249
B630005N14Rik	RIKEN cDNA B630005N14 gene	ENSMUSG00000042742
Gpr85	G protein-coupled receptor 85	ENSMUSG00000048216
Pitpnm1	phosphatidylinositol transfer protein, membrane-associated 1	ENSMUSG00000024851
Klf6	Kruppel-like factor 6	ENSMUSG00000000078
Tfec	transcription factor EC	ENSMUSG00000029553
Asph	aspartate-beta-hydroxylase	ENSMUSG00000028207
Skp2	S-phase kinase-associated protein 2 (p45)	ENSMUSG00000054115
Mycn	v-myc myelocytomatosis viral related oncogene, neuroblastoma derived (avian)	ENSMUSG00000037169
Ddx1	DEAD (Asp-Glu-Ala-Asp) box polypeptide 1	ENSMUSG00000037149
Il7r	interleukin 7 receptor	ENSMUSG00000003882
Zfp263	zinc finger protein 263	ENSMUSG00000022529
Trp53inp1	transformation related protein 53 inducible nuclear protein 1	ENSMUSG00000028211
Clcf1	cardiotrophin-like cytokine factor 1	ENSMUSG00000040663
Adrbk1	adrenergic receptor kinase, beta 1	ENSMUSG00000024858
Gem	GTP binding protein (gene overexpressed in skeletal muscle)	ENSMUSG00000028214
Tars	threonyl-tRNA synthetase	ENSMUSG00000022241
Npr3	natriuretic peptide receptor 3	ENSMUSG00000022206
Dsg1c	desmoglein 1 gamma	ENSMUSG00000034774
Odc1	ornithine decarboxylase, structural 1	ENSMUSG00000011179
Dsg1a	desmoglein 1 alpha	ENSMUSG00000069441
Dsg1b	desmoglein 1 beta	ENSMUSG00000061928
Was	Wiskott-Aldrich syndrome homolog (human)	ENSMUSG00000031165

Peli3	pellino 3	ENSMUSG0000002490 1
Zfp800	zinc finger protein 800	ENSMUSG0000003984 1
Adam17	a disintegrin and metallopeptidase domain 17	ENSMUSG0000005259 3
Cdh9	cadherin 9	ENSMUSG0000002537 0
Osgin2	oxidative stress induced growth inhibitor family member 2	ENSMUSG0000004115 3
Ripk2	receptor (TNFRSF)-interacting serine-threonine kinase 2	ENSMUSG0000004113 5
Zbtb10	zinc finger and BTB domain containing 10	ENSMUSG0000006911 4
Fam82b	family with sequence similarity 82, member B	ENSMUSG0000002822 9
Hilpda	hypoxia inducible lipid droplet associated	ENSMUSG0000004342 1
Map2k7	mitogen-activated protein kinase kinase 7	ENSMUSG0000000294 8
Cwf19l2	CWF19-like 2, cell cycle control (<i>S. pombe</i>)	ENSMUSG0000002589 8
Rrm2	ribonucleotide reductase M2	ENSMUSG0000002064 9
Fabp4	fatty acid binding protein 4, adipocyte	ENSMUSG0000006251 5
Elavl1	ELAV (embryonic lethal, abnormal vision)-like 1 (Hu antigen R)	ENSMUSG0000004002 8
Cdk6	cyclin-dependent kinase 6	ENSMUSG0000004027 4
Fam133b	family with sequence similarity 133, member B	ENSMUSG0000005850 3
Cldn26	claudin 26	ENSMUSG0000002271 5
Drap1	Dr1 associated protein 1 (negative cofactor 2 alpha)	ENSMUSG0000002491 4
Id2	inhibitor of DNA binding 2	ENSMUSG0000002064 4
Zfp958	zinc finger protein 958	ENSMUSG0000005874 8
Casp1	caspase 1	ENSMUSG0000002588 8
Fosl1	fos-like antigen 1	ENSMUSG0000002491 2
Psm2	proteasome (prosome, macropain) subunit, alpha type 2	ENSMUSG0000001567 1
Rsad2	radical S-adenosyl methionine domain containing 2	ENSMUSG0000002064 1
Casp4	caspase 4, apoptosis-related cysteine peptidase	ENSMUSG0000003353 8
Slc39a6	solute carrier family 39 (metal ion transporter), member 6	ENSMUSG0000002427 0

Cmpk2	cytidine monophosphate (UMP-CMP) kinase 2, mitochondrial	ENSMUSG0000002063 8
Efnb2	ephrin B2	ENSMUSG0000000130 0
Inhba	inhibin beta-A	ENSMUSG0000004132 4
1810013L2 4Rik	RIKEN cDNA 1810013L24 gene	ENSMUSG0000002250 7
Tnfsf13b	tumor necrosis factor (ligand) superfamily, member 13b	ENSMUSG0000003149 7
Irf5	interferon regulatory factor 5	ENSMUSG0000002977 1
Irs2	insulin receptor substrate 2	ENSMUSG0000003889 4
Tspan33	tetraspanin 33	ENSMUSG0000000176 3
Rela	v-rel reticuloendotheliosis viral oncogene homolog A (avian)	ENSMUSG0000002492 7
Mmp13	matrix metalloproteinase 13	ENSMUSG0000005057 8
Pcmt1	protein-L-isoaspartate (D-aspartate) O-methyltransferase 1	ENSMUSG0000001979 5
Rrs1	RRS1 ribosome biogenesis regulator homolog (<i>S. cerevisiae</i>)	ENSMUSG0000006102 4
Rab20	RAB20, member RAS oncogene family	ENSMUSG0000003150 4
Ankrd33b	ankyrin repeat domain 33B	ENSMUSG0000002223 7
Socs1	suppressor of cytokine signaling 1	ENSMUSG0000003803 7
4632415L0 5Rik	RIKEN cDNA 4632415L05 gene	ENSMUSG0000004810 6
Litaf	LPS-induced TN factor	ENSMUSG0000002250 0
Il3ra	interleukin 3 receptor, alpha chain	ENSMUSG0000006875 8
Tab2	TGF-beta activated kinase 1/MAP3K7 binding protein 2	ENSMUSG0000001575 5
Slc4a7	solute carrier family 4, sodium bicarbonate cotransporter, member 7	ENSMUSG0000002173 3
Map3k7	mitogen-activated protein kinase kinase kinase 7	ENSMUSG0000002828 4
Mmp7	matrix metalloproteinase 7	ENSMUSG0000001862 3
Ddx3x	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 3, X-linked	ENSMUSG0000000078 7
Birc2	baculoviral IAP repeat-containing 2	ENSMUSG0000005736 7
Birc3	baculoviral IAP repeat-containing 3	ENSMUSG0000003200 0
Bach2	BTB and CNC homology 2	ENSMUSG0000004027 0

Cpa5	carboxypeptidase A5	ENSMUSG0000002978 8
Gspt1	G1 to S phase transition 1	ENSMUSG0000006220 3
Sdc2	syndecan 2	ENSMUSG0000002226 1
Trim27	tripartite motif-containing 27	ENSMUSG0000002132 6
Mtdh	metadherin	ENSMUSG0000002225 5
Map3k2	mitogen-activated protein kinase kinase kinase 2	ENSMUSG0000002438 3
Fbxo30	F-box protein 30	ENSMUSG0000004764 8
Tulp4	tubby like protein 4	ENSMUSG0000003437 7
Cdc42ep2	CDC42 effector protein (Rho GTPase binding) 2	ENSMUSG0000004566 4
Dbf4	DBF4 homolog (<i>S. cerevisiae</i>)	ENSMUSG0000000229 7
Bin1	bridging integrator 1	ENSMUSG0000002438 1
Pik3cg	phosphoinositide-3-kinase, catalytic, gamma polypeptide	ENSMUSG0000002057 3
Stx11	syntaxin 11	ENSMUSG0000003923 2
Nampt	nicotinamide phosphoribosyltransferase	ENSMUSG0000002057 2
Plagl1	pleiomorphic adenoma gene-like 1	ENSMUSG0000001981 7
Ezr	ezrin	ENSMUSG0000005239 7
Tnfsf10	tumor necrosis factor (ligand) superfamily, member 10	ENSMUSG0000003930 4
Ifitm7	interferon induced transmembrane protein 7	ENSMUSG0000006596 8
Pnrc1	proline-rich nuclear receptor coactivator 1	ENSMUSG0000004012 8
Akr1b3	aldo-keto reductase family 1, member B3 (aldose reductase)	ENSMUSG0000000164 2
Fut4	fucosyltransferase 4	ENSMUSG0000004930 7
Msc	musculin	ENSMUSG0000002593 0
Akr1b10	aldo-keto reductase family 1, member B10 (aldose reductase)	ENSMUSG0000006175 8
Batf2	basic leucine zipper transcription factor, ATF-like 2	ENSMUSG0000003969 9
Uba1	ubiquitin-like modifier activating enzyme 1	ENSMUSG0000000192 4
Tnik	TRAF2 and NCK interacting kinase	ENSMUSG0000002769 2

Cited2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2	ENSMUSG00000039910
Tmem140	transmembrane protein 140	ENSMUSG00000057137
Rnf19a	ring finger protein 19A	ENSMUSG00000022280
Ube2w	ubiquitin-conjugating enzyme E2W (putative)	ENSMUSG00000025939
Pabpc1	poly(A) binding protein, cytoplasmic 1	ENSMUSG00000022283
Ywhaz	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, zeta polypeptide	ENSMUSG00000022285
Ly96	lymphocyte antigen 96	ENSMUSG00000025779
Ehd1	EH-domain containing 1	ENSMUSG00000024772
Taf1d	TATA box binding protein (Tbp)-associated factor, RNA polymerase I, D	ENSMUSG00000031939
Timp1	tissue inhibitor of metalloproteinase 1	ENSMUSG00000001131
3110043O21Rik	RIKEN cDNA 3110043O21 gene	ENSMUSG00000028300
Tfpt	TCF3 (E2A) fusion partner	ENSMUSG00000006335
T	brachyury	ENSMUSG00000062327
Tnfaip3	tumor necrosis factor, alpha-induced protein 3	ENSMUSG00000019850
Ifngr1	interferon gamma receptor 1	ENSMUSG00000020009
Ddx58	DEAD (Asp-Glu-Ala-Asp) box polypeptide 58	ENSMUSG00000040296
Ndst2	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 2	ENSMUSG00000039308
Pfkfb3	6-phosphofructo-2-kinase/fructose-2,6-biphosphatase 3	ENSMUSG00000026773
Klf10	Kruppel-like factor 10	ENSMUSG00000037465
Skil	SKI-like	ENSMUSG00000027660
Rps9	ribosomal protein S9	ENSMUSG00000006333
Ifrd1	interferon-related developmental regulator 1	ENSMUSG00000001627
Egr1	early growth response 1	ENSMUSG00000038418
Etf1	eukaryotic translation termination factor 1	ENSMUSG00000024360
Hgf	hepatocyte growth factor	ENSMUSG00000028864
Pik3ca	phosphatidylinositol 3-kinase, catalytic, alpha polypeptide	ENSMUSG00000027665

Hist1h2ac	histone cluster 1, H2ac	ENSMUSG00000069270
Plau	plasminogen activator, urokinase	ENSMUSG00000021822
Mcm3	minichromosome maintenance deficient 3 (<i>S. cerevisiae</i>)	ENSMUSG00000041859
Il2ra	interleukin 2 receptor, alpha chain	ENSMUSG00000026770
Kbtbd11	kelch repeat and BTB (POZ) domain containing 11	ENSMUSG00000055675
Myom2	myomesin 2	ENSMUSG00000031461
Il15ra	interleukin 15 receptor, alpha chain	ENSMUSG00000023206
Slc22a3	solute carrier family 22 (organic cation transporter), member 3	ENSMUSG00000023828
Cd36	CD36 antigen	ENSMUSG00000002944
Actl6a	actin-like 6A	ENSMUSG00000027671
Igf2r	insulin-like growth factor 2 receptor	ENSMUSG00000023830
Hist1h2ab	histone cluster 1, H2ab	ENSMUSG00000061615
Sgk1	serum/glucocorticoid regulated kinase 1	ENSMUSG00000019970
Bad	BCL2-associated agonist of cell death	ENSMUSG00000024959
Pion	pigeon homolog (<i>Drosophila</i>)	ENSMUSG00000039934
Isg15	ISG15 ubiquitin-like modifier	ENSMUSG00000035692
Foxg1	forkhead box G1	ENSMUSG00000020950
Ccdc39	coiled-coil domain containing 39	ENSMUSG00000027676
Hbegf	heparin-binding EGF-like growth factor	ENSMUSG00000024486
Mapk1	mitogen-activated protein kinase 1	ENSMUSG00000063358
Tbpl1	TATA box binding protein-like 1	ENSMUSG00000071359
Wtap	Wilms' tumour 1-associating protein	ENSMUSG00000060475
Sod2	superoxide dismutase 2, mitochondrial	ENSMUSG00000006818
Eif3e	eukaryotic translation initiation factor 3, subunit E	ENSMUSG00000022336
Armc10	armadillo repeat containing 10	ENSMUSG00000038525
Dnmt1	DNA methyltransferase (cytosine-5) 1	ENSMUSG00000004099

Strn3	striatin, calmodulin binding protein 3	ENSMUSG0000002095 4
Dctn3	dynactin 3	ENSMUSG0000002844 7
Dnajc2	DnaJ (Hsp40) homolog, subfamily C, member 2	ENSMUSG0000002901 4
Mllt4	myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, <i>Drosophila</i>); translocated to, 4	ENSMUSG0000006803 6
Cd14	CD14 antigen	ENSMUSG0000005143 9
Ctgf	connective tissue growth factor	ENSMUSG0000001999 7
Heatr5a	HEAT repeat containing 5A	ENSMUSG0000003518 1
Icam1	intercellular adhesion molecule 1	ENSMUSG0000003740 5
Arl5b	ADP-ribosylation factor-like 5B	ENSMUSG0000001741 8
Exosc9	exosome component 9	ENSMUSG0000002771 4
Icam4	intercellular adhesion molecule 4, Landsteiner-Wiener blood group	ENSMUSG0000000101 4
Icam5	intercellular adhesion molecule 5, telencephalin	ENSMUSG0000003217 4
Tyk2	tyrosine kinase 2	ENSMUSG0000003217 5
Ssbp1	single-stranded DNA binding protein 1	ENSMUSG0000002991 1
Tdp2	tyrosyl-DNA phosphodiesterase 2	ENSMUSG0000003595 8
Ccl19	chemokine (C-C motif) ligand 19	ENSMUSG0000007100 5
Trps1	trichorhinophalangeal syndrome I (human)	ENSMUSG0000003867 9
Cfl2	cofilin 2, muscle	ENSMUSG0000006292 9
Pcdhb7	protocadherin beta 7	ENSMUSG0000004506 2
Baz1a	bromodomain adjacent to zinc finger domain 1A	ENSMUSG0000003502 1
Psmb1	proteasome (prosome, macropain) subunit, beta type 1	ENSMUSG0000001476 9
Pcdhb15	protocadherin beta 15	ENSMUSG0000004703 3
Klhl7	kelch-like 7 (<i>Drosophila</i>)	ENSMUSG0000002898 6
Taf7	TAF7 RNA polymerase II, TATA box binding protein (TBP)-associated factor	ENSMUSG0000005131 6
Il2	interleukin 2	ENSMUSG0000002772 0
Slc22a8	solute carrier family 22 (organic anion transporter), member 8	ENSMUSG0000006379 6

Scarf2	scavenger receptor class F, member 2	ENSMUSG00000012017
Rgmb	RGM domain family, member B	ENSMUSG00000048027
Fgf2	fibroblast growth factor 2	ENSMUSG00000037225
Slc3a2	solute carrier family 3 (activators of dibasic and neutral amino acid transport), member 2	ENSMUSG00000010095
Psmc6	proteasome (prosome, macropain) subunit, alpha type 6	ENSMUSG00000021024
Nfkb1a	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, alpha	ENSMUSG00000021025
Hdac3	histone deacetylase 3	ENSMUSG00000024454
Spry1	sprouty homolog 1 (Drosophila)	ENSMUSG00000037211
Ikbkb	inhibitor of kappaB kinase beta	ENSMUSG00000031537
Cd72	CD72 antigen	ENSMUSG00000028459
Ranbp1	RAN binding protein 1	ENSMUSG00000005732
Xiap	X-linked inhibitor of apoptosis	ENSMUSG00000025860
Ap3m2	adaptor-related protein complex 3, mu 2 subunit	ENSMUSG00000031539
Ldlr	low density lipoprotein receptor	ENSMUSG00000032193
Stag2	stromal antigen 2	ENSMUSG00000025862
Tln1	talin 1	ENSMUSG00000028465
Irf4	interferon regulatory factor 4	ENSMUSG00000021356
Sf3a1	splicing factor 3a, subunit 1	ENSMUSG00000002129
Mta2	metastasis-associated gene family, member 2	ENSMUSG00000071646
Zhx2	zinc fingers and homeoboxes 2	ENSMUSG00000071757
Zfp53	zinc finger protein 53	ENSMUSG00000057409
Cldn5	claudin 5	ENSMUSG00000041378
Rheb	Ras homolog enriched in brain	ENSMUSG00000028945
Osm	oncostatin M	ENSMUSG00000058755
Il1rn	interleukin 1 receptor antagonist	ENSMUSG00000026981
Ido1	indoleamine 2,3-dioxygenase 1	ENSMUSG00000031551

Zfp942	zinc finger protein 942	ENSMUSG0000007126 7
Ccrn4l	CCR4 carbon catabolite repression 4-like (<i>S. cerevisiae</i>)	ENSMUSG0000002308 7
Elf2	E74-like factor 2	ENSMUSG0000003717 4
Fth1	ferritin heavy chain 1	ENSMUSG0000002466 1
Prkcd	protein kinase C, delta	ENSMUSG0000002194 8
Adam9	a disintegrin and metallopeptidase domain 9 (meltrin gamma)	ENSMUSG0000003155 5
Ecsit	ECSIT homolog (<i>Drosophila</i>)	ENSMUSG0000006683 9
Zfp606	zinc finger protein 606	ENSMUSG0000003038 6
Klhl24	kelch-like 24 (<i>Drosophila</i>)	ENSMUSG0000006290 1
Tnfrsf12a	tumor necrosis factor receptor superfamily, member 12a	ENSMUSG0000002390 5
Ripk1	receptor (TNFRSF)-interacting serine-threonine kinase 1	ENSMUSG0000002140 8
Rab33a	RAB33A, member of RAS oncogene family	ENSMUSG0000003110 4
Mtss1	metastasis suppressor 1	ENSMUSG0000002235 3
Rps29	ribosomal protein S29	ENSMUSG0000003489 2
Lrr1	leucine rich repeat protein 1	ENSMUSG0000003488 3
Jakmip2	janus kinase and microtubule interacting protein 2	ENSMUSG0000002450 2
Sqle	squalene epoxidase	ENSMUSG0000002235 1
Hdac2	histone deacetylase 2	ENSMUSG0000001977 7
Rp9	retinitis pigmentosa 9 (human)	ENSMUSG0000003223 9
Neurl3	neuralized homolog 3 homolog (<i>Drosophila</i>)	ENSMUSG0000004718 0
Arid5a	AT rich interactive domain 5A (MRF1-like)	ENSMUSG0000003744 7
Marcks	myristoylated alanine rich protein kinase C substrate	ENSMUSG0000006966 2
Bbs9	Bardet-Biedl syndrome 9 (human)	ENSMUSG0000003591 9
A830007P1 2Rik	RIKEN cDNA A830007P12 gene	ENSMUSG0000005955 5
Ewsr1	Ewing sarcoma breakpoint region 1	ENSMUSG0000000907 9
Ddhd2	DDHD domain containing 2	ENSMUSG0000006131 3

Trib1	tribbles homolog 1 (Drosophila)	ENSMUSG00000032501
Fam84b	family with sequence similarity 84, member B	ENSMUSG00000072568
Star	steroidogenic acute regulatory protein	ENSMUSG00000031574
Myc	myelocytomatosis oncogene	ENSMUSG00000022346
Fam48a	family with sequence similarity 48, member A	ENSMUSG00000027751
Fyn	Fyn proto-oncogene	ENSMUSG00000019843
Cdk11	cyclin-dependent kinase-like 1 (CDC2-related kinase)	ENSMUSG00000020990
Ccdc117	coiled-coil domain containing 117	ENSMUSG00000020482
Vps37c	vacuolar protein sorting 37C (yeast)	ENSMUSG00000048832
2610018G03Rik	RIKEN cDNA 2610018G03 gene	ENSMUSG00000031112
Cd5	CD5 antigen	ENSMUSG00000024669
Il6	interleukin 6	ENSMUSG00000025746
Tyms	thymidylate synthase	ENSMUSG00000025747
Slc16a10	solute carrier family 16 (monocarboxylic acid transporters), member 10	ENSMUSG00000019838
Pdpk1	3-phosphoinositide dependent protein kinase 1	ENSMUSG00000024122
Ticam2	toll-like receptor adaptor molecule 2	ENSMUSG00000056130
Repin1	replication initiator 1	ENSMUSG00000052751
Nisch	nischarin	ENSMUSG00000021910
Aebp1	AE binding protein 1	ENSMUSG00000020473
Ssr1	signal sequence receptor, alpha	ENSMUSG00000021427
Gimap4	GTPase, IMAP family member 4	ENSMUSG00000054435
Gltscr2	glioma tumor suppressor candidate region gene 2	ENSMUSG00000041560
Tmem176b	transmembrane protein 176B	ENSMUSG00000029810
Rab11fip1	RAB11 family interacting protein 1 (class I)	ENSMUSG00000031488
Cenpa	centromere protein A	ENSMUSG00000029177
Frmd6	FERM domain containing 6	ENSMUSG00000048285

Nr4a3	nuclear receptor subfamily 4, group A, member 3	ENSMUSG0000002834 1
Traf2	TNF receptor-associated factor 2	ENSMUSG0000002694 2
Psma3	proteasome (prosome, macropain) subunit, alpha type 3	ENSMUSG0000006007 3
C5ar1	complement component 5a receptor 1	ENSMUSG0000004913 0
Zc3h4	zinc finger CCCH-type containing 4	ENSMUSG0000005927 3
Siah2	seven in absentia 2	ENSMUSG0000003643 2
Sh3bp5	SH3-domain binding protein 5 (BTK-associated)	ENSMUSG0000002189 2
Nedd9	neural precursor cell expressed, developmentally down-regulated gene 9	ENSMUSG0000002136 5
Ppic	peptidylprolyl isomerase C	ENSMUSG0000002453 8
Edn1	endothelin 1	ENSMUSG0000002136 7
Ppp5c	protein phosphatase 5, catalytic subunit	ENSMUSG0000000309 9
Ehhadh	enoyl-Coenzyme A, hydratase/3-hydroxyacyl Coenzyme A dehydrogenase	ENSMUSG0000002285 3
Cd40lg	CD40 ligand	ENSMUSG0000003113 2
Fli1	Friend leukemia integration 1	ENSMUSG0000001608 7
Cbx3	chromobox 3	ENSMUSG0000002983 6
Abca1	ATP-binding cassette, sub-family A (ABC1), member 1	ENSMUSG0000001524 3
Tsc2	tuberous sclerosis 2	ENSMUSG0000000249 6
Cd83	CD83 antigen	ENSMUSG0000001539 6
Gtf3c2	general transcription factor IIIC, polypeptide 2, beta	ENSMUSG0000002914 4
Map4k4	mitogen-activated protein kinase kinase kinase kinase 4	ENSMUSG0000002607 4
Ppm1a	protein phosphatase 1A, magnesium dependent, alpha isoform	ENSMUSG0000002109 6
Gmpr	guanosine monophosphate reductase	ENSMUSG0000000025 3
Tirap	toll-interleukin 1 receptor (TIR) domain-containing adaptor protein	ENSMUSG0000003204 1
Lrrc18	leucine rich repeat containing 18	ENSMUSG0000004167 3
Il1r1	interleukin 1 receptor, type I	ENSMUSG0000002607 2
Prrc1	proline-rich coiled-coil 1	ENSMUSG0000002459 4

Ptk2	PTK2 protein tyrosine kinase 2	ENSMUSG00000022607
Slc9a3r2	solute carrier family 9 (sodium/hydrogen exchanger), member 3 regulator 2	ENSMUSG00000002504
Mapk8	mitogen-activated protein kinase 8	ENSMUSG000000021936
Il1rl1	interleukin 1 receptor-like 1	ENSMUSG000000026069
Creb5	cAMP responsive element binding protein 5	ENSMUSG000000053007
Dusp4	dual specificity phosphatase 4	ENSMUSG000000031530
Rad23b	RAD23b homolog (<i>S. cerevisiae</i>)	ENSMUSG000000028426
Prdm1	PR domain containing 1, with ZNF domain	ENSMUSG000000038151
Hif1a	hypoxia inducible factor 1, alpha subunit	ENSMUSG000000021109
Pglyrp1	peptidoglycan recognition protein 1	ENSMUSG000000030413
Ikkkap	inhibitor of kappa light polypeptide enhancer in B cells, kinase complex-associated protein	ENSMUSG000000028431
Nhlrc1	NHL repeat containing 1	ENSMUSG000000044231
D8Ert82e	DNA segment, Chr 8, ERATO Doi 82, expressed	ENSMUSG000000050271
Kcnab1	potassium voltage-gated channel, shaker-related subfamily, beta member 1	ENSMUSG000000027827
Tiparp	TCDD-inducible poly(ADP-ribose) polymerase	ENSMUSG000000034640
Dmpk	dystrophia myotonica-protein kinase	ENSMUSG000000030409
Rfc4	replication factor C (activator 1) 4	ENSMUSG000000022881
Ccnl1	cyclin L1	ENSMUSG000000027829
Msr1	macrophage scavenger receptor 1	ENSMUSG000000025044
St6gal1	beta galactoside alpha 2,6 sialyltransferase 1	ENSMUSG000000022885
Nck2	non-catalytic region of tyrosine kinase adaptor protein 2	ENSMUSG000000066877
Mrps34	mitochondrial ribosomal protein S34	ENSMUSG000000038880
2010002N04Rik	RIKEN cDNA 2010002N04 gene	ENSMUSG000000038059
Sst	somatostatin	ENSMUSG000000004366
Slc37a2	solute carrier family 37 (glycerol-3-phosphate transporter), member 2	ENSMUSG000000032122
Ptx3	pentraxin related gene	ENSMUSG000000027832

Bcl6	B cell leukemia/lymphoma 6	ENSMUSG00000022508
Arc	activity regulated cytoskeletal-associated protein	ENSMUSG00000022602
Lilrb4	leukocyte immunoglobulin-like receptor, subfamily B, member 4	ENSMUSG00000062593
Fosb	FBJ osteosarcoma oncogene B	ENSMUSG00000003545
Pdgfrl	platelet-derived growth factor receptor-like	ENSMUSG00000031595
Cd74	CD74 antigen (invariant polypeptide of major histocompatibility complex, class II antigen-associated)	ENSMUSG00000024610
Lpar1	lysophosphatidic acid receptor 1	ENSMUSG00000038668
Slc2a6	solute carrier family 2 (facilitated glucose transporter), member 6	ENSMUSG00000036067
Ly6e	lymphocyte antigen 6 complex, locus E	ENSMUSG00000022587
Zbtb1	zinc finger and BTB domain containing 1	ENSMUSG00000033454
Fosl2	fos-like antigen 2	ENSMUSG00000029135
Nt5c3	5'-nucleotidase, cytosolic III	ENSMUSG00000029780
Il12a	interleukin 12a	ENSMUSG00000027776
Csf1r	colony stimulating factor 1 receptor	ENSMUSG00000024621
Herc6	hect domain and RLD 6	ENSMUSG00000029798
Rhpn1	rhophilin, Rho GTPase binding protein 1	ENSMUSG00000022580
Relb	avian reticuloendotheliosis viral (v-rel) oncogene related B	ENSMUSG00000002983
Yes1	Yamaguchi sarcoma viral (v-yes) oncogene homolog 1	ENSMUSG00000014932
Plek	pleckstrin	ENSMUSG00000020120
1110054O05Rik	RIKEN cDNA 1110054O05 gene	ENSMUSG00000038544
Cnrip1	cannabinoid receptor interacting protein 1	ENSMUSG00000044629
Sftpa1	surfactant associated protein A1	ENSMUSG00000021789
Ppp3r1	protein phosphatase 3, regulatory subunit B, alpha isoform (calcineurin B, type I)	ENSMUSG00000033953
Apoe	apolipoprotein E	ENSMUSG00000002985
Ralgds	ral guanine nucleotide dissociation stimulator	ENSMUSG00000026821
Gja1	gap junction protein, alpha 1	ENSMUSG00000050953

Eif2s1	eukaryotic translation initiation factor 2, subunit 1 alpha	ENSMUSG00000021116
Shc3	src homology 2 domain-containing transforming protein C3	ENSMUSG00000021448
Tmeff2	transmembrane protein with EGF-like and two follistatin-like domains 2	ENSMUSG00000026109
Zfand5	zinc finger, AN1-type domain 5	ENSMUSG00000024750
Ywhah	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, eta polypeptide	ENSMUSG00000018965
Bcl3	B cell leukemia/lymphoma 3	ENSMUSG00000053175
Tsc1	tuberous sclerosis 1	ENSMUSG00000026812
Fabp7	fatty acid binding protein 7, brain	ENSMUSG00000019874
Fam43a	family with sequence similarity 43, member A	ENSMUSG00000046546
Slc31a2	solute carrier family 31, member 2	ENSMUSG00000066152
Tlr3	toll-like receptor 3	ENSMUSG00000031639
Syk	spleen tyrosine kinase	ENSMUSG00000021457
Pvr	poliovirus receptor	ENSMUSG00000040511
Ppp1r2	protein phosphatase 1, regulatory (inhibitor) subunit 2	ENSMUSG00000047714
Apod	apolipoprotein D	ENSMUSG00000022548
Sertad2	SERTA domain containing 2	ENSMUSG00000049800
Gpr137c	G protein-coupled receptor 137C	ENSMUSG00000049092
Rapgef2	Rap guanine nucleotide exchange factor (GEF) 2	ENSMUSG00000062232
Nfil3	nuclear factor, interleukin 3, regulated	ENSMUSG00000056749
Lims1	LIM and senescent cell antigen-like domains 1	ENSMUSG00000019920
Peli1	pellino 1	ENSMUSG00000020134
Napg	N-ethylmaleimide sensitive fusion protein attachment protein gamma	ENSMUSG00000024581
Stat1	signal transducer and activator of transcription 1	ENSMUSG00000026104
Pnck	pregnancy upregulated non-ubiquitously expressed CaM kinase	ENSMUSG00000002012
Ttf1	transcription termination factor, RNA polymerase I	ENSMUSG00000026803
Slbp	stem-loop binding protein	ENSMUSG00000004642

Edar	ectodysplasin-A receptor	ENSMUSG00000003227
Zfp361l	zinc finger protein 36, C3H type-like 1	ENSMUSG00000021127
Mad2l1	MAD2 mitotic arrest deficient-like 1	ENSMUSG00000029910
10-Sep	septin 10	ENSMUSG00000019917
Lrp2bp	Lrp2 binding protein	ENSMUSG00000031637
Hspa8	heat shock protein 8	ENSMUSG00000015656
Rgs3	regulator of G-protein signaling 3	ENSMUSG00000059810
Klf9	Kruppel-like factor 9	ENSMUSG00000033863
Gadd45a	growth arrest and DNA-damage-inducible 45 alpha	ENSMUSG00000036390
Med27	mediator complex subunit 27	ENSMUSG00000026799
Nlrp5	NLR family, pyrin domain containing 5	ENSMUSG00000015721
Acs1l	acyl-CoA synthetase long-chain family member 1	ENSMUSG00000018796
Samd4	sterile alpha motif domain containing 4	ENSMUSG00000021838
Pigq	phosphatidylinositol glycan anchor biosynthesis, class Q	ENSMUSG00000025728
Gch1	GTP cyclohydrolase 1	ENSMUSG00000037580
Grina	glutamate receptor, ionotropic, N-methyl D-aspartate-associated protein 1 (glutamate binding)	ENSMUSG00000022564
Casp3	caspase 3	ENSMUSG00000031628
Stk17b	serine/threonine kinase 17b (apoptosis-inducing)	ENSMUSG00000026094
Irf2	interferon regulatory factor 2	ENSMUSG00000031627
Lgals3	lectin, galactose binding, soluble 3	ENSMUSG00000050335
Naa10	N(alpha)-acetyltransferase 10, NatA catalytic subunit Nalpha acetyltransferase 10	ENSMUSG00000031388
Npy2r	neuropeptide Y receptor Y2	ENSMUSG00000028004
Fgg	fibrinogen gamma chain	ENSMUSG00000033860
Malt1	mucosa associated lymphoid tissue lymphoma translocation gene 1	ENSMUSG00000032688
Fgb	fibrinogen beta chain	ENSMUSG00000033831
Pip5k1b	phosphatidylinositol-4-phosphate 5-kinase, type 1 beta	ENSMUSG00000024867

Nme4	NME/NM23 nucleoside diphosphate kinase 4	ENSMUSG0000002417 7
Cyc1	cytochrome c-1	ENSMUSG0000002255 1
Irak1	interleukin-1 receptor-associated kinase 1	ENSMUSG0000003139 2
Tlr2	toll-like receptor 2	ENSMUSG0000002799 5
Plaur	plasminogen activator, urokinase receptor	ENSMUSG0000004622 3
Lman1	lectin, mannose-binding, 1	ENSMUSG0000004189 1
Dock8	dedicator of cytokinesis 8	ENSMUSG0000005208 5
Irgq	immunity-related GTPase family, Q	ENSMUSG0000004103 7
Pmaip1	phorbol-12-myristate-13-acetate-induced protein 1	ENSMUSG0000002452 1
Rgs6	regulator of G-protein signaling 6	ENSMUSG0000002121 9
Coq10b	coenzyme Q10 homolog B (<i>S. cerevisiae</i>)	ENSMUSG0000002598 1
Peli2	pellino 2	ENSMUSG0000002184 6
Ethe1	ethylmalonic encephalopathy 1	ENSMUSG0000006425 4
Neil3	nei like 3 (<i>E. coli</i>)	ENSMUSG0000003939 6
Set	SET nuclear oncogene	ENSMUSG0000005476 6
Dusp1	dual specificity phosphatase 1	ENSMUSG0000002419 0
Vegfc	vascular endothelial growth factor C	ENSMUSG0000003152 0
Tubb6	tubulin, beta 6 class V	ENSMUSG0000000147 3
Psen1	presenilin 1	ENSMUSG0000001996 9
Cd8b1	CD8 antigen, beta chain 1	ENSMUSG0000005304 4
Cd8a	CD8 antigen, alpha chain	ENSMUSG0000005397 7
Rel	reticuloendotheliosis oncogene	ENSMUSG0000002027 5
Arhgef1	Rho guanine nucleotide exchange factor (GEF) 1	ENSMUSG0000004094 0
Cbl	Casitas B-lineage lymphoma	ENSMUSG0000003434 2
Tlr11	toll-like receptor 11	ENSMUSG0000005196 9
Bak1	BCL2-antagonist/killer 1	ENSMUSG0000005778 9

Dok3	docking protein 3	ENSMUSG00000035711
Pou2f2	POU domain, class 2, transcription factor 2	ENSMUSG00000008496
G6pdx	glucose-6-phosphate dehydrogenase X-linked	ENSMUSG00000031400
Ikbkg	inhibitor of kappaB kinase gamma	ENSMUSG00000004221
Caml	calcium modulating ligand	ENSMUSG00000021501
Dedd2	death effector domain-containing DNA binding protein 2	ENSMUSG00000054499
Cdc37l1	cell division cycle 37-like 1	ENSMUSG00000024780
Clk1	CDC-like kinase 1	ENSMUSG00000026034
Tlr4	toll-like receptor 4	ENSMUSG00000039005
Rcl1	RNA terminal phosphate cyclase-like 1	ENSMUSG00000024785
Apex1	apurinic/apyrimidinic endonuclease 1	ENSMUSG00000035960
2310079F2 3Rik	RIKEN cDNA 2310079F23 gene	ENSMUSG00000029097
Prrx2	paired related homeobox 2	ENSMUSG00000039476
Ltbp2	latent transforming growth factor beta binding protein 2	ENSMUSG00000002020
Mbd2	methyl-CpG binding domain protein 2	ENSMUSG00000024513
Cd274	CD274 antigen	ENSMUSG00000016496
Etv3	ets variant gene 3	ENSMUSG00000003382
Parp14	poly (ADP-ribose) polymerase family, member 14	ENSMUSG00000034422
Cflar	CASP8 and FADD-like apoptosis regulator	ENSMUSG00000026031
Mat2a	methionine adenosyltransferase II, alpha	ENSMUSG00000053907
Zfp647	zinc finger protein 647	ENSMUSG00000054967
Casp8	caspase 8	ENSMUSG00000026029
Mex3c	mex3 homolog C (C. elegans)	ENSMUSG00000037253
Smad4	SMAD family member 4	ENSMUSG00000024515
Srgn	serglycin	ENSMUSG00000020077
Dlst	dihydrolipoamide S-succinyltransferase (E2 component of 2-oxo-glutarate complex)	ENSMUSG00000004789

Rtn4	reticulon 4	ENSMUSG00000020458
Ppard	peroxisome proliferator activator receptor delta	ENSMUSG00000002250
Abl1	c-abl oncogene 1, non-receptor tyrosine kinase	ENSMUSG00000026842
Tgfb1	transforming growth factor, beta 1	ENSMUSG00000002603
Ctnna2	catenin (cadherin associated protein), alpha 2	ENSMUSG00000063063
Dna2	DNA replication helicase 2 homolog (yeast)	ENSMUSG00000036875
D5Ert579e	DNA segment, Chr 5, ERATO Doi 579, expressed	ENSMUSG00000029190
Fam164c	family with sequence similarity 164, member C	ENSMUSG00000045064
Chd8	chromodomain helicase DNA binding protein 8	ENSMUSG00000053754
Lamc3	laminin gamma 3	ENSMUSG00000026840
Axl	AXL receptor tyrosine kinase	ENSMUSG00000002602
Sumo1	SMT3 suppressor of mif two 3 homolog 1 (yeast)	ENSMUSG00000026021
Sgms1	sphingomyelin synthase 1	ENSMUSG00000040451
Fos	FBJ osteosarcoma oncogene	ENSMUSG00000021250
Jdp2	Jun dimerization protein 2	ENSMUSG00000034271
Batf	basic leucine zipper transcription factor, ATF-like	ENSMUSG00000034266
Ppapdc3	phosphatidic acid phosphatase type 2 domain containing 3	ENSMUSG00000051373
Csf2rb	colony stimulating factor 2 receptor, beta, low-affinity (granulocyte-macrophage)	ENSMUSG00000071713
Mapk14	mitogen-activated protein kinase 14	ENSMUSG00000053436
5430427O19Rik	RIKEN cDNA 5430427O19 gene	ENSMUSG00000025058
Cd3e	CD3 antigen, epsilon polypeptide	ENSMUSG00000032093
Pomt1	protein-O-mannosyltransferase 1	ENSMUSG00000039254
Herc4	hect domain and RLD 4	ENSMUSG00000020064
Stc2	stanniocalcin 2	ENSMUSG00000020303
Lipn	lipase, family member N	ENSMUSG00000024770
Cpeb4	cytoplasmic polyadenylation element binding protein 4	ENSMUSG00000020300

Mageb5	melanoma antigen, family B, 5	ENSMUSG0000006139 2
Dok1	docking protein 1	ENSMUSG0000006833 5
Il2rb	interleukin 2 receptor, beta chain	ENSMUSG0000006822 7
Stambpl1	STAM binding protein like 1	ENSMUSG0000002477 6
Il10ra	interleukin 10 receptor, alpha	ENSMUSG0000003208 9
Raph1	Ras association (RalGDS/AF-6) and pleckstrin homology domains 1	ENSMUSG0000002601 4
Acta2	actin, alpha 2, smooth muscle, aorta	ENSMUSG0000003578 3
Fas	Fas (TNF receptor superfamily member 6)	ENSMUSG0000002477 8
Cd28	CD28 antigen	ENSMUSG0000002601 2
Ch25h	cholesterol 25-hydroxylase	ENSMUSG0000005037 0
Ctla4	cytotoxic T-lymphocyte-associated protein 4	ENSMUSG0000002601 1
Lipa	lysosomal acid lipase A	ENSMUSG0000002478 1
Ifit2	interferon-induced protein with tetratricopeptide repeats 2	ENSMUSG0000004593 2
Ifit3	interferon-induced protein with tetratricopeptide repeats 3	ENSMUSG0000007489 6
2010002M1 2Rik	RIKEN cDNA 2010002M12 gene	ENSMUSG0000006729 7
Cdkn1a	cyclin-dependent kinase inhibitor 1A (P21)	ENSMUSG0000002306 7
Ifit1	interferon-induced protein with tetratricopeptide repeats 1	ENSMUSG0000003445 9
Egr2	early growth response 2	ENSMUSG0000003786 8
Gstz1	glutathione transferase zeta 1 (maleylacetoacetate isomerase)	ENSMUSG0000002103 3
Snape3	small nuclear RNA activating complex, polypeptide 3	ENSMUSG0000002848 3
8030462N1 7Rik	RIKEN cDNA 8030462N17 gene	ENSMUSG0000004746 6
2610005L0 7Rik	RIKEN cDNA 2610005L07 gene	ENSMUSG0000007179 3
Zfp868	zinc finger protein 868	ENSMUSG0000006042 7
Cdk1	cyclin-dependent kinase 1	ENSMUSG0000001994 2
Zfp934	zinc finger protein 934	ENSMUSG0000007486 5
Fbxw11	F-box and WD-40 domain protein 11	ENSMUSG0000002027 1

Dctn1	dynactin 1	ENSMUSG00000031865
Pim1	proviral integration site 1	ENSMUSG00000024014
Ppp1r3c	protein phosphatase 1, regulatory (inhibitor) subunit 3C	ENSMUSG00000067279
Pard6g	par-6 partitioning defective 6 homolog gamma (C. elegans)	ENSMUSG00000056214
Gatad2a	GATA zinc finger domain containing 2A	ENSMUSG00000036180
Mrpl52	mitochondrial ribosomal protein L52	ENSMUSG00000010406
Sertad1	SERTA domain containing 1	ENSMUSG00000008384
Mmp14	matrix metalloproteinase 14 (membrane-inserted)	ENSMUSG00000000957
Apoa1	apolipoprotein A-I	ENSMUSG00000032083
Actg2	actin, gamma 2, smooth muscle, enteric	ENSMUSG00000059430
Klf7	Kruppel-like factor 7 (ubiquitous)	ENSMUSG00000025959
Creb1	cAMP responsive element binding protein 1	ENSMUSG00000025958
Maff	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein F (avian)	ENSMUSG00000042622
4931414P19Rik	RIKEN cDNA 4931414P19 gene	ENSMUSG00000022179
Hhex	hematopoietically expressed homeobox	ENSMUSG00000024986
Nagk	N-acetylglucosamine kinase	ENSMUSG00000034744
Ddx17	DEAD (Asp-Glu-Ala-Asp) box polypeptide 17	ENSMUSG00000055065
Zwint	ZW10 interactor	ENSMUSG00000019923
Rpl12	ribosomal protein L12	ENSMUSG00000038900
Ifnb1	interferon beta 1, fibroblast	ENSMUSG00000048806
Zbtb16	zinc finger and BTB domain containing 16	ENSMUSG00000066687
Lap3	leucine aminopeptidase 3	ENSMUSG00000039682
Rab36	RAB36, member RAS oncogene family	ENSMUSG00000020175
Lcorl	ligand dependent nuclear receptor corepressor-like	ENSMUSG00000015882
Nptxr	neuronal pentraxin receptor	ENSMUSG00000022421
Clk2	CDC-like kinase 2	ENSMUSG00000068917

Pbx3	pre B cell leukemia homeobox 3	ENSMUSG00000038718
Hspa5	heat shock protein 5	ENSMUSG00000026864
Hmmer	hyaluronan mediated motility receptor (RHAMM)	ENSMUSG00000020330
Pdgfb	platelet derived growth factor, B polypeptide	ENSMUSG00000000489
Rpl3	ribosomal protein L3	ENSMUSG00000060036
Zfp36	zinc finger protein 36	ENSMUSG00000044786
Tab1	TGF-beta activated kinase 1/MAP3K7 binding protein 1	ENSMUSG00000022414
Il2rg	interleukin 2 receptor, gamma chain	ENSMUSG00000031304
Il18	interleukin 18	ENSMUSG00000039217
Atf4	activating transcription factor 4	ENSMUSG00000042406
Phf19	PHD finger protein 19	ENSMUSG00000026873
Abcg1	ATP-binding cassette, sub-family G (WHITE), member 1	ENSMUSG00000024030
Gdf15	growth differentiation factor 15	ENSMUSG00000038508
Traf1	TNF receptor-associated factor 1	ENSMUSG00000026875
Grap2	GRB2-related adaptor protein 2	ENSMUSG00000042351
Tff1	trefoil factor 1	ENSMUSG00000024032
Jund	Jun proto-oncogene related gene d	ENSMUSG00000071076
Pck2	phosphoenolpyruvate carboxykinase 2 (mitochondrial)	ENSMUSG00000040618
Rps6ka5	ribosomal protein S6 kinase, polypeptide 5	ENSMUSG00000021180
Ifi30	interferon gamma inducible protein 30	ENSMUSG00000031838
Psme1	proteasome (prosome, macropain) 28 subunit, alpha	ENSMUSG00000022216
Nono	non-POU-domain-containing, octamer binding protein	ENSMUSG00000031311
Zfp85-rs1	zinc finger protein 85, related sequence 1	ENSMUSG00000058331
Jun	Jun oncogene	ENSMUSG00000052684
Nfkbib	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, beta	ENSMUSG00000030595
Rab14	RAB14, member RAS oncogene family	ENSMUSG00000026878

Zbtb7b	zinc finger and BTB domain containing 7B	ENSMUSG0000002804 2
Il12b	interleukin 12b	ENSMUSG0000000429 6
Irf9	interferon regulatory factor 9	ENSMUSG0000000232 5
Rnf145	ring finger protein 145	ENSMUSG0000001918 9
Adcy2	adenylate cyclase 2	ENSMUSG0000002153 6
Mxd1	MAX dimerization protein 1	ENSMUSG0000000115 6
Gmcl1	germ cell-less homolog 1 (Drosophila)	ENSMUSG0000000115 7
Pcdh7	protocadherin 7	ENSMUSG0000002910 8
Mdp1	magnesium-dependent phosphatase 1	ENSMUSG0000000232 9
Cd47	CD47 antigen (Rh-related antigen, integrin-associated signal transducer)	ENSMUSG0000005544 7
Zc3h12c	zinc finger CCCH type containing 12C	ENSMUSG0000003516 4
Ptgs1	prostaglandin-endoperoxide synthase 1	ENSMUSG0000004725 0
Gmpr2	guanosine monophosphate reductase 2	ENSMUSG0000000232 6
Bbx	bobby sox homolog (Drosophila)	ENSMUSG0000002264 1
Blnk	B cell linker	ENSMUSG0000006113 2
Hax1	HCLS1 associated X-1	ENSMUSG0000002794 4
Kdelc2	KDEL (Lys-Asp-Glu-Leu) containing 2	ENSMUSG0000003448 7
Itk	IL2 inducible T cell kinase	ENSMUSG0000002039 5
Cblb	Casitas B-lineage lymphoma b	ENSMUSG0000002263 7
Bmp10	bone morphogenetic protein 10	ENSMUSG0000003004 6
Alcam	activated leukocyte cell adhesion molecule	ENSMUSG0000002263 6
Arhgap25	Rho GTPase activating protein 25	ENSMUSG0000003004 7
1700029P1 1Rik	RIKEN cDNA 1700029P11 gene	ENSMUSG0000006163 3
Pik3ap1	phosphoinositide-3-kinase adaptor protein 1	ENSMUSG0000002501 7
Xrcc6	X-ray repair complementing defective repair in Chinese hamster cells 6	ENSMUSG0000002247 1
Tlr1	toll-like receptor 1	ENSMUSG0000004482 7

Tlr6	toll-like receptor 6	ENSMUSG00000051498
Bst2	bone marrow stromal cell antigen 2	ENSMUSG00000046718
Lcor	ligand dependent nuclear receptor corepressor	ENSMUSG00000025019
Nfkbiz	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, zeta	ENSMUSG00000035356
Slc27a1	solute carrier family 27 (fatty acid transporter), member 1	ENSMUSG00000031808
Srebf2	sterol regulatory element binding factor 2	ENSMUSG00000022463
Trim41	tripartite motif-containing 41	ENSMUSG00000040365
Atg4c	autophagy related 4C, cysteine peptidase	ENSMUSG00000028550
Psmid8	proteasome (prosome, macropain) 26S subunit, non-ATPase, 8	ENSMUSG00000030591
Rfc1	replication factor C (activator 1) 1	ENSMUSG00000029191
Irgm1	immunity-related GTPase family M member 1	ENSMUSG00000046879
Arpc2	actin related protein 2/3 complex, subunit 2	ENSMUSG00000006304
Jak3	Janus kinase 3	ENSMUSG00000031805
Zfp472	zinc finger protein 472	ENSMUSG00000053600
Zfp62	zinc finger protein 62	ENSMUSG00000046311
Ifi2711	interferon, alpha-inducible protein 27 like 1	ENSMUSG00000064215
Zfp763	zinc finger protein 763	ENSMUSG00000067430
Tlr13	toll-like receptor 13	ENSMUSG00000033777
4932431P2 ORik	RIKEN cDNA 4932431P20 gene	ENSMUSG00000074224
Zfp101	zinc finger protein 101	ENSMUSG00000055240
Rhoh	ras homolog gene family, member H	ENSMUSG00000029204
Zfp84	zinc finger protein 84	ENSMUSG00000046185
Zfp709	zinc finger protein 709	ENSMUSG00000056019
Itgb2	integrin beta 2	ENSMUSG00000000290
Psm4	proteasome (prosome, macropain) subunit, alpha type 4	ENSMUSG00000032301
Apbb2	amyloid beta (A4) precursor protein-binding, family B, member 2	ENSMUSG00000029207

Jak1	Janus kinase 1	ENSMUSG00000028530
Rab8a	RAB8A, member RAS oncogene family	ENSMUSG00000003037
Mcm2	minichromosome maintenance deficient 2 mitotin (<i>S. cerevisiae</i>)	ENSMUSG00000002870
Mapk9	mitogen-activated protein kinase 9	ENSMUSG00000020366
Pde4b	phosphodiesterase 4B, cAMP specific	ENSMUSG00000028525
Zfp146	zinc finger protein 146	ENSMUSG00000037029
Zmym2	zinc finger, MYM-type 2	ENSMUSG00000021945
Daxx	Fas death domain-associated protein	ENSMUSG00000002307
Ell2	elongation factor RNA polymerase II 2	ENSMUSG00000001542
Sh3bgr1	SH3-binding domain glutamic acid-rich protein like	ENSMUSG00000031246
Zeb2	zinc finger E-box binding homeobox 2	ENSMUSG00000026872
Sqstm1	sequestosome 1	ENSMUSG00000015837
Tspo	translocator protein	ENSMUSG00000041736
Acvr2a	activin receptor IIA	ENSMUSG00000052155
Icosl	icos ligand	ENSMUSG00000000732
Uroc1	urocanase domain containing 1	ENSMUSG00000034456
Pstpip1	proline-serine-threonine phosphatase-interacting protein 1	ENSMUSG00000032322
Trappc10	trafficking protein particle complex 10	ENSMUSG00000000374
Dcbld2	discoidin, CUB and LCCL domain containing 2	ENSMUSG00000035107
Nfkbid	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, delta	ENSMUSG00000036931
Hmox1	heme oxygenase (decycling) 1	ENSMUSG00000005413
Mcm5	minichromosome maintenance deficient 5, cell division cycle 46 (<i>S. cerevisiae</i>)	ENSMUSG00000005410
Aldh1l1	aldehyde dehydrogenase 1 family, member L1	ENSMUSG00000030088
Rnd3	Rho family GTPase 3	ENSMUSG00000017144
Pdxk	pyridoxal (pyridoxine, vitamin B6) kinase	ENSMUSG00000032788
Chuk	conserved helix-loop-helix ubiquitous kinase	ENSMUSG00000025199

Parvb	parvin, beta	ENSMUSG00000022438
Nmi	N-myc (and STAT) interactor	ENSMUSG00000026946
Tnfaip6	tumor necrosis factor alpha induced protein 6	ENSMUSG00000053475
Arrdc3	arrestin domain containing 3	ENSMUSG00000074794
S100a11	S100 calcium binding protein A11 (calgizzarin)	ENSMUSG00000027907
S100a10	S100 calcium binding protein A10 (calpactin)	ENSMUSG00000041959
Scd2	stearoyl-Coenzyme A desaturase 2	ENSMUSG00000025203
Papola	poly (A) polymerase alpha	ENSMUSG00000021111
Phf11	PHD finger protein 11	ENSMUSG00000044703
D14Ert668e	DNA segment, Chr 14, ERATO Doi 668, expressed	ENSMUSG00000068245
Agxt2l2	alanine-glyoxylate aminotransferase 2-like 2	ENSMUSG00000020359
1700017B05Rik	RIKEN cDNA 1700017B05 gene	ENSMUSG00000032300
Ppcdc	phosphopantothenoylcysteine decarboxylase	ENSMUSG00000063849
Brd2	bromodomain containing 2	ENSMUSG00000024335
Lsm3	LSM3 homolog, U6 small nuclear RNA associated (<i>S. cerevisiae</i>)	ENSMUSG00000034192
Dnajb2	DnaJ (Hsp40) homolog, subfamily B, member 2	ENSMUSG00000026203
H2-DMA	histocompatibility 2, class II, locus DMA	ENSMUSG00000037649
Rasa1	RAS p21 protein activator 1	ENSMUSG00000021549
Syt14	synaptotagmin-like 4	ENSMUSG00000031255
Zbtb32	zinc finger and BTB domain containing 32	ENSMUSG00000006310
Tap1	transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)	ENSMUSG00000037321
Abce1	ATP-binding cassette, sub-family E (OABP), member 1	ENSMUSG00000058355
Psmb8	proteasome (prosome, macropain) subunit, beta type 8 (large multifunctional peptidase 7)	ENSMUSG00000024338
Btrc	beta-transducin repeat containing protein	ENSMUSG00000025217
Skp1a	S-phase kinase-associated protein 1A	ENSMUSG00000036309
Rfx5	regulatory factor X, 5 (influences HLA class II expression)	ENSMUSG00000005774

Robo1	roundabout homolog 1 (Drosophila)	ENSMUSG0000002288 3
Wars	tryptophanyl-tRNA synthetase	ENSMUSG0000002126 6
Vdac1	voltage-dependent anion channel 1	ENSMUSG0000002040 2
Kpna3	karyopherin (importin) alpha 3	ENSMUSG0000002192 9
Cfd	complement factor D (adipsin)	ENSMUSG0000006178 0
Samsn1	SAM domain, SH3 domain and nuclear localization signals, 1	ENSMUSG0000002287 6
Il15	interleukin 15	ENSMUSG0000003171 2
Dync1h1	dynein cytoplasmic 1 heavy chain 1	ENSMUSG0000001870 7
Trim13	tripartite motif-containing 13	ENSMUSG0000003523 5
Arid3a	AT rich interactive domain 3A (BRIGHT-like)	ENSMUSG0000001956 4
Pml	promyelocytic leukemia	ENSMUSG0000003698 6
Ucp1	uncoupling protein 1 (mitochondrial, proton carrier)	ENSMUSG0000003171 0
Pim3	proviral integration site 3	ENSMUSG0000003582 8
Prune	prune homolog (Drosophila)	ENSMUSG0000001571 1
Elov13	elongation of very long chain fatty acids (FEN1/Elo2, SUR4/Elo3, yeast)-like 3	ENSMUSG0000003875 4
Fam63a	family with sequence similarity 63, member A	ENSMUSG0000003871 2
Irf1	interferon regulatory factor 1	ENSMUSG0000001889 9
Dnajb1	DnaJ (Hsp40) homolog, subfamily B, member 1	ENSMUSG0000000548 3
Thbs4	thrombospondin 4	ENSMUSG0000002170 2
Sbno2	strawberry notch homolog 2 (Drosophila)	ENSMUSG0000003567 3
Nfkb2	nuclear factor of kappa light polypeptide gene enhancer in B cells 2, p49/p100	ENSMUSG0000002522 5
Traf3	TNF receptor-associated factor 3	ENSMUSG0000002127 7
Arih1	ariadne ubiquitin-conjugating enzyme E2 binding protein homolog 1 (Drosophila)	ENSMUSG0000002523 4
Foxp1	forkhead box P1	ENSMUSG0000003006 7
Jmy	junction-mediating and regulatory protein	ENSMUSG0000002169 0
Csf2	colony stimulating factor 2 (granulocyte-macrophage)	ENSMUSG0000001891 6

Bhmt	betaine-homocysteine methyltransferase	ENSMUSG00000074768
Rybp	RING1 and YY1 binding protein	ENSMUSG00000072872
Exoc3l4	exocyst complex component 3-like 4	ENSMUSG00000021280
Bhmt2	betaine-homocysteine methyltransferase 2	ENSMUSG00000042118
C4b	complement component 4B (Chido blood group)	ENSMUSG00000073418
Sox7	SRY-box containing gene 7	ENSMUSG00000063060
Dmgdh	dimethylglycine dehydrogenase precursor	ENSMUSG00000042102
Tnfaip2	tumor necrosis factor, alpha-induced protein 2	ENSMUSG00000021281
Prkaca	protein kinase, cAMP dependent, catalytic, alpha	ENSMUSG00000005469
Adamts1	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 1	ENSMUSG00000022893
Mcl1	myeloid cell leukemia sequence 1	ENSMUSG00000038612
Lhfp12	lipoma HMGIC fusion partner-like 2	ENSMUSG00000045312
Ckb	creatine kinase, brain	ENSMUSG00000001270
C530008M17Rik	RIKEN cDNA C530008M17 gene	ENSMUSG00000036377
Irs1	insulin receptor substrate 1	ENSMUSG00000055980
Rbms1	RNA binding motif, single stranded interacting protein 1	ENSMUSG00000026970
2310040G07Rik	RIKEN cDNA 2310040G07 gene	ENSMUSG00000072852
Bach1	BTB and CNC homology 1	ENSMUSG00000025612
Cebpa	CCAAT/enhancer binding protein (C/EBP), alpha	ENSMUSG00000034957
Tank	TRAF family member-associated Nf-kappa B activator	ENSMUSG00000064289
Ncaph2	non-SMC condensin II complex, subunit H2	ENSMUSG00000008690
Hopx	HOP homeobox	ENSMUSG00000059325
Tymp	thymidine phosphorylase	ENSMUSG00000022615
Ifih1	interferon induced with helicase C domain 1	ENSMUSG00000026896
Tnip1	TNFAIP3 interacting protein 1	ENSMUSG00000020400
Gca	grancalcin	ENSMUSG00000026893

Itrp1	inositol 1,4,5-trisphosphate receptor 1	ENSMUSG0000003010 2
Eps15	epidermal growth factor receptor pathway substrate 15	ENSMUSG0000002855 2
Ccl20	chemokine (C-C motif) ligand 20	ENSMUSG0000002616 6
Gpx3	glutathione peroxidase 3	ENSMUSG0000001833 9
Ier2	immediate early response 2	ENSMUSG0000005356 0
Adssl1	adenylosuccinate synthetase like 1	ENSMUSG0000001114 8
C2	complement component 2 (within H-2S)	ENSMUSG0000002437 1
Siva1	SIVA1, apoptosis-inducing factor	ENSMUSG0000006432 6
Akt1	thymoma viral proto-oncogene 1	ENSMUSG0000000172 9
Lyl1	lymphoblastomic leukemia 1	ENSMUSG0000003404 1
Sf3b4	splicing factor 3b, subunit 4	ENSMUSG0000006885 6
Scara3	scavenger receptor class A, member 3	ENSMUSG0000003446 3
Lmcd1	LIM and cysteine-rich domains 1	ENSMUSG0000005760 4
Klf16	Kruppel-like factor 16	ENSMUSG0000003539 7
Hist2h2ac	histone cluster 2, H2ac	ENSMUSG0000006885 5
Fem1b	feminization 1 homolog b (C. elegans)	ENSMUSG0000003224 4
Tsc22d3	TSC22 domain family, member 3	ENSMUSG0000003143 1
Stap1	signal transducing adaptor family member 1	ENSMUSG0000002925 4
Uba6	ubiquitin-like modifier activating enzyme 6	ENSMUSG0000003589 8
Ptk2b	PTK2 protein tyrosine kinase 2 beta	ENSMUSG0000005945 6
Gpr132	G protein-coupled receptor 132	ENSMUSG0000002129 8
Fcgr1	Fc receptor, IgG, high affinity I	ENSMUSG0000001594 7
Mknk2	MAP kinase-interacting serine/threonine kinase 2	ENSMUSG0000002019 0
Enc1	ectodermal-neural cortex 1	ENSMUSG0000004177 3
Rgnef	Rho-guanine nucleotide exchange factor	ENSMUSG0000002166 2
Brf1	BRF1 homolog, subunit of RNA polymerase III transcription initiation factor IIIB (S. cerevisiae)	ENSMUSG0000001115 8

Txnip	thioredoxin interacting protein	ENSMUSG0000003839 3
Ythdc1	YTH domain containing 1	ENSMUSG0000003585 1
Junb	Jun-B oncogene	ENSMUSG0000005283 7
Btf3	basic transcription factor 3	ENSMUSG0000002166 0
Mtmr14	myotubularin related protein 14	ENSMUSG0000003026 9
Ifnar2	interferon (alpha and beta) receptor 2	ENSMUSG0000002297 1
Sp100	nuclear antigen Sp100	ENSMUSG0000002622 2
Il10rb	interleukin 10 receptor, beta	ENSMUSG0000002296 9
Ifnar1	interferon (alpha and beta) receptor 1	ENSMUSG0000002296 7
Map2k1	mitogen-activated protein kinase kinase 1	ENSMUSG0000000493 6
Ifngr2	interferon gamma receptor 2	ENSMUSG0000002296 5
4930427A07Rik	RIKEN cDNA 4930427A07 gene	ENSMUSG0000003746 6
A630001G21Rik	RIKEN cDNA A630001G21 gene	ENSMUSG0000005276 0
Tnpo2	transportin 2 (importin 3, karyopherin beta 2b)	ENSMUSG0000003169 1
Ddah2	dimethylarginine dimethylaminohydrolase 2	ENSMUSG0000000703 9
Irgm2	immunity-related GTPase family M member 2	ENSMUSG0000006987 4
Gadd45b	growth arrest and DNA-damage-inducible 45 beta	ENSMUSG0000001531 2
Yaf2	YY1 associated factor 2	ENSMUSG0000002263 4
Man2b1	mannosidase 2, alpha B1	ENSMUSG0000000514 2
Mknk1	MAP kinase-interacting serine/threonine kinase 1	ENSMUSG0000002870 8
Zfp719	zinc finger protein 719	ENSMUSG0000003046 9
4921524J17Rik	RIKEN cDNA 4921524J17 gene	ENSMUSG0000003693 4
Irak4	interleukin-1 receptor-associated kinase 4	ENSMUSG0000005988 3
Ltb	lymphotoxin B	ENSMUSG0000002439 9
Tnf	tumor necrosis factor	ENSMUSG0000002440 1
Igdc3	immunoglobulin superfamily, DCC subclass, member 3	ENSMUSG0000003239 4

Rnf187	ring finger protein 187	ENSMUSG00000020496
Notch2	notch 2	ENSMUSG00000027878
Emc3	ER membrane protein complex subunit 3	ENSMUSG00000030286
Rcan1	regulator of calcineurin 1	ENSMUSG00000022951
Naip1	NLR family, apoptosis inhibitory protein 1	ENSMUSG00000021640
Egr3	early growth response 3	ENSMUSG00000033730
9930012K11Rik	RIKEN cDNA 9930012K11 gene	ENSMUSG00000044551
H2-Q6	histocompatibility 2, Q region locus 6	ENSMUSG00000073409
Efhd1	EF hand domain containing 1	ENSMUSG00000026255
H2-Q7	histocompatibility 2, Q region locus 7	ENSMUSG00000060550
Irak2	interleukin-1 receptor-associated kinase 2	ENSMUSG00000060477
Slc38a2	solute carrier family 38, member 2	ENSMUSG00000022462
Tcf19	transcription factor 19	ENSMUSG00000050410
Inpp5d	inositol polyphosphate-5-phosphatase D	ENSMUSG00000026288
Polr3d	polymerase (RNA) III (DNA directed) polypeptide D	ENSMUSG00000000776
Cxcl5	chemokine (C-X-C motif) ligand 5	ENSMUSG00000029371
Sftpc	surfactant associated protein C	ENSMUSG00000022097
Aes	amino-terminal enhancer of split	ENSMUSG00000054452
Cxcl3	chemokine (C-X-C motif) ligand 3	ENSMUSG00000029379
Pik3r1	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide 1 (p85 alpha)	ENSMUSG00000041417
Nlrp3	NLR family, pyrin domain containing 3	ENSMUSG00000032691
Cxcl1	chemokine (C-X-C motif) ligand 1	ENSMUSG00000029380
Cxcl2	chemokine (C-X-C motif) ligand 2	ENSMUSG00000058427
Dclre1a	DNA cross-link repair 1A, PSO2 homolog (<i>S. cerevisiae</i>)	ENSMUSG00000025077
Ereg	epiregulin	ENSMUSG00000029377
Cd180	CD180 antigen	ENSMUSG00000021624

Itga6	integrin alpha 6	ENSMUSG00000027111
Ier3	immediate early response 3	ENSMUSG00000003541
Areg	amphiregulin	ENSMUSG00000029378
Fam46c	family with sequence similarity 46, member C	ENSMUSG00000044468
Pparg	peroxisome proliferator activated receptor gamma	ENSMUSG00000000440
Nr1h2	nuclear receptor subfamily 1, group H, member 2	ENSMUSG00000060601
Ets2	E26 avian leukemia oncogene 2, 3' domain	ENSMUSG00000022895
Erb2ip	Erb2 interacting protein	ENSMUSG00000021709
Plk3	polo-like kinase 3	ENSMUSG00000028680
Ppp1r10	protein phosphatase 1, regulatory subunit 10	ENSMUSG00000039220
Il4i1	interleukin 4 induced 1	ENSMUSG00000074141
Gbx2	gastrulation brain homeobox 2	ENSMUSG00000034486
Hsd17b10	hydroxysteroid (17-beta) dehydrogenase 10	ENSMUSG00000025260
Srebf1	sterol regulatory element binding transcription factor 1	ENSMUSG00000020538
Cxcl9	chemokine (C-X-C motif) ligand 9	ENSMUSG00000029417
Txnrd1	thioredoxin reductase 1	ENSMUSG00000020250
Cxcl10	chemokine (C-X-C motif) ligand 10	ENSMUSG00000034855
H1foo	H1 histone family, member O, oocyte-specific	ENSMUSG00000042279
Cxcl11	chemokine (C-X-C motif) ligand 11	ENSMUSG00000060183
Lpar6	lysophosphatidic acid receptor 6	ENSMUSG00000033446
Scarb2	scavenger receptor class B, member 2	ENSMUSG00000029426
Atp6v0b	ATPase, H ⁺ transporting, lysosomal V0 subunit B	ENSMUSG00000033379
Tpm1	tropomyosin 1, alpha	ENSMUSG00000032366
H2-T24	histocompatibility 2, T region locus 24	ENSMUSG00000053835
Ngf	nerve growth factor	ENSMUSG00000027859
Mx1	myxovirus (influenza virus) resistance 1	ENSMUSG00000000386

Mx2	myxovirus (influenza virus) resistance 2	ENSMUSG0000002334 1
Htr1a	5-hydroxytryptamine (serotonin) receptor 1A	ENSMUSG0000002172 1
Ccng2	cyclin G2	ENSMUSG0000002938 5
Rassf4	Ras association (RalGDS/AF-6) domain family member 4	ENSMUSG0000004212 9
Irf3	interferon regulatory factor 3	ENSMUSG0000000318 4
Cxcl13	chemokine (C-X-C motif) ligand 13	ENSMUSG0000002307 8
Sat1	spermidine/spermine N1-acetyl transferase 1	ENSMUSG0000002528 3
Nfe2l2	nuclear factor, erythroid derived 2, like 2	ENSMUSG0000001583 9
Tsc22d1	TSC22 domain family, member 1	ENSMUSG0000002201 0
Trim26	tripartite motif-containing 26	ENSMUSG0000002445 7
Eif3a	eukaryotic translation initiation factor 3, subunit A	ENSMUSG0000002499 1
Mt1	metallothionein 1	ENSMUSG0000003176 5
Plk2	polo-like kinase 2	ENSMUSG0000002170 1
Epsti1	epithelial stromal interaction 1 (breast)	ENSMUSG0000002201 4
Map2k3	mitogen-activated protein kinase kinase 3	ENSMUSG0000001893 2
Herpud1	homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1	ENSMUSG0000003177 0
5830428H2 3Rik	RIKEN cDNA 5830428H23 gene	ENSMUSG0000007473 3
Tnfsf11	tumor necrosis factor (ligand) superfamily, member 11	ENSMUSG0000002201 5
Map3k1	mitogen-activated protein kinase kinase kinase 1	ENSMUSG0000002175 4
Slc2a1	solute carrier family 2 (facilitated glucose transporter), member 1	ENSMUSG0000002864 5
Rasgef1b	RasGEF domain family, member 1B	ENSMUSG0000002933 3
H2-M2	histocompatibility 2, M region locus 2	ENSMUSG0000001628 3
Ccl22	chemokine (C-C motif) ligand 22	ENSMUSG0000003177 9
Hnrnpd	heterogeneous nuclear ribonucleoprotein D	ENSMUSG0000000056 8
Adipor2	adiponectin receptor 2	ENSMUSG0000003016 8
Coq9	coenzyme Q9 homolog (yeast)	ENSMUSG0000003178 2

Enoph1	enolase-phosphatase 1	ENSMUSG00000029326
Phka2	phosphorylase kinase alpha 2	ENSMUSG00000031295
Elf1	E74-like factor 1	ENSMUSG00000036461
Ybx1	Y box protein 1	ENSMUSG00000028639
Rhoc	ras homolog gene family, member C	ENSMUSG00000002233
Olfm4	olfactomedin 4	ENSMUSG00000022026
Itga4	integrin alpha 4	ENSMUSG00000027009
Hivep3	human immunodeficiency virus type I enhancer binding protein 3	ENSMUSG00000028634
Mmp15	matrix metalloproteinase 15	ENSMUSG00000031790
Fst	follistatin	ENSMUSG00000021765
Bora	bora, aurora kinase A activator	ENSMUSG00000022070
Itga2	integrin alpha 2	ENSMUSG00000015533
Akap10	A kinase (PRKA) anchor protein 10	ENSMUSG00000047804
Sec1	secretory blood group 1	ENSMUSG00000040364
Gins3	GIN5 complex subunit 3 (Psf3 homolog)	ENSMUSG00000031669
Bid	BH3 interacting domain death agonist	ENSMUSG00000004446
Pdcd1	programmed cell death 1	ENSMUSG00000026285
Dbp	D site albumin promoter binding protein	ENSMUSG00000059824
Rab27a	RAB27A, member RAS oncogene family	ENSMUSG00000032202
Uchl3	ubiquitin carboxyl-terminal esterase L3 (ubiquitin thiolesterase)	ENSMUSG00000022111
Grwd1	glutamate-rich WD repeat containing 1	ENSMUSG00000053801
Kdelr1	KDEL (Lys-Asp-Glu-Leu) endoplasmic reticulum protein retention receptor 1	ENSMUSG00000002778
Irg1	immunoresponsive gene 1	ENSMUSG00000022126
Tfpi	tissue factor pathway inhibitor	ENSMUSG00000027082
Dram2	DNA-damage regulated autophagy modulator 2	ENSMUSG00000027900
4833420G17Rik	RIKEN cDNA 4833420G17 gene	ENSMUSG00000062822

Aff1	AF4/FMR2 family, member 1	ENSMUSG00000029313
Cdh11	cadherin 11	ENSMUSG00000031673
Mospd2	motile sperm domain containing 2	ENSMUSG00000061778
Apaf1	apoptotic peptidase activating factor 1	ENSMUSG00000019979
Cdh5	cadherin 5	ENSMUSG00000031871
Ubb	ubiquitin B	ENSMUSG00000019505
Cklf	chemokine-like factor	ENSMUSG00000054400
Serping1	serine (or cysteine) peptidase inhibitor, clade G, member 1	ENSMUSG00000023224
Scn8a	sodium channel, voltage-gated, type VIII, alpha	ENSMUSG00000023033
Ednrb	endothelin receptor type B	ENSMUSG00000022122
Cmtm2b	CKLF-like MARVEL transmembrane domain containing 2B	ENSMUSG00000035785
Nfkbie	nuclear factor of kappa light polypeptide gene enhancer in B cells inhibitor, epsilon	ENSMUSG00000023947
Tmsb4x	thymosin, beta 4, X chromosome	ENSMUSG00000049775
Tlr8	toll-like receptor 8	ENSMUSG00000040522
Tnfrsf11a	tumor necrosis factor receptor superfamily, member 11a	ENSMUSG00000026321
Tlr7	toll-like receptor 7	ENSMUSG00000044583
Csf1	colony stimulating factor 1 (macrophage)	ENSMUSG00000014599
Apobec1	apolipoprotein B mRNA editing enzyme, catalytic polypeptide 1	ENSMUSG00000040613
Nr4a1	nuclear receptor subfamily 4, group A, member 1	ENSMUSG00000023034
Spry2	sprouty homolog 2 (Drosophila)	ENSMUSG00000022114
Vegfa	vascular endothelial growth factor A	ENSMUSG00000023951
C3ar1	complement component 3a receptor 1	ENSMUSG00000040552
Mid1	midline 1	ENSMUSG00000035299
Gstm1	glutathione S-transferase, mu 1	ENSMUSG00000058135
Clec4a3	C-type lectin domain family 4, member a3	ENSMUSG00000043832
Serpinb3c	serine (or cysteine) peptidase inhibitor, clade B, member 3C	ENSMUSG00000073601

Gnai3	guanine nucleotide binding protein (G protein), alpha inhibiting 3	ENSMUSG0000000001
Saa3	serum amyloid A 3	ENSMUSG0000004006
Clec4e	C-type lectin domain family 4, member e	ENSMUSG00000030142
Map2k4	mitogen-activated protein kinase kinase 4	ENSMUSG00000033352
Sf3a3	splicing factor 3a, subunit 3	ENSMUSG00000028902
Psma5	proteasome (prosome, macropain) subunit, alpha type 5	ENSMUSG00000068749
Ndufa12	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 12	ENSMUSG00000020022
Cd163	CD163 antigen	ENSMUSG00000008845
Cbfb	core binding factor beta	ENSMUSG00000031885
Mtf1	metal response element binding transcription factor 1	ENSMUSG00000028890
Tradd	TNFRSF1A-associated via death domain	ENSMUSG00000031887
C1ra	complement component 1, r subcomponent A	ENSMUSG00000055172
Tfcp2l1	transcription factor CP2-like 1	ENSMUSG00000026380
Srf	serum response factor	ENSMUSG00000015605
Btg1	B cell translocation gene 1, anti-proliferative	ENSMUSG00000036478
Rap2a	RAS related protein 2a	ENSMUSG00000051615
Zc3h12a	zinc finger CCCH type containing 12A	ENSMUSG00000042677
Phb2	prohibitin 2	ENSMUSG00000004264
Ptpn4	protein tyrosine phosphatase, non-receptor type 4	ENSMUSG00000026384
Ptpn6	protein tyrosine phosphatase, non-receptor type 6	ENSMUSG00000004266
Csrp3	cysteine and glycine-rich protein 3	ENSMUSG00000030470
Dusp6	dual specificity phosphatase 6	ENSMUSG00000019960
Stk40	serine/threonine kinase 40	ENSMUSG00000042608
Soat2	sterol O-acyltransferase 2	ENSMUSG00000023045
Olfir74	olfactory receptor 74	ENSMUSG00000075142
Cep290	centrosomal protein 290	ENSMUSG00000019971

Htr1b	5-hydroxytryptamine (serotonin) receptor 1B	ENSMUSG00000049511
Insig2	insulin induced gene 2	ENSMUSG00000003721
4930443G12Rik	RIKEN cDNA 4930443G12 gene	ENSMUSG00000027880
Gas2	growth arrest specific 2	ENSMUSG00000030498
Sp1	trans-acting transcription factor 1	ENSMUSG00000001280
Tubgcp5	tubulin, gamma complex associated protein 5	ENSMUSG00000033790
Zfp932	zinc finger protein 932	ENSMUSG00000066613
Psmb2	proteasome (prosome, macropain) subunit, beta type 2	ENSMUSG00000028837
Ndel1	nuclear distribution gene E-like homolog 1 (<i>A. nidulans</i>)	ENSMUSG00000018736
Myf5	myogenic factor 5	ENSMUSG00000000435
Psmb10	proteasome (prosome, macropain) subunit, beta type 10	ENSMUSG00000031897
Tpbg	trophoblast glycoprotein	ENSMUSG00000035274
Sfpq	splicing factor proline/glutamine rich (polypyrimidine tract binding protein associated)	ENSMUSG00000028820
Ptprj	protein tyrosine phosphatase, receptor type, J	ENSMUSG00000025314
Nfe2	nuclear factor, erythroid derived 2	ENSMUSG00000058794
Gpr84	G protein-coupled receptor 84	ENSMUSG00000063234
Itga5	integrin alpha 5 (fibronectin receptor alpha)	ENSMUSG00000000555
R3hdm1	R3H domain containing 1	ENSMUSG00000056211
S1pr1	sphingosine-1-phosphate receptor 1	ENSMUSG00000045092
Per1	period homolog 1 (<i>Drosophila</i>)	ENSMUSG00000020893
Lct	lactase	ENSMUSG00000026354
Mcm6	minichromosome maintenance deficient 6 (MIS5 homolog, <i>S. pombe</i>) (<i>S. cerevisiae</i>)	ENSMUSG00000026355
Tnfrsf1a	tumor necrosis factor receptor superfamily, member 1a	ENSMUSG00000030341
Vcam1	vascular cell adhesion molecule 1	ENSMUSG00000027962
Dars	aspartyl-tRNA synthetase	ENSMUSG00000026356
Zfp90	zinc finger protein 90	ENSMUSG00000031907

Cxcr4	chemokine (C-X-C motif) receptor 4	ENSMUSG0000004538 2
Cdh1	cadherin 1	ENSMUSG0000000030 3
Tlr12	toll-like receptor 12	ENSMUSG0000006254 5
Sfpi1	SFFV proviral integration 1	ENSMUSG0000000211 1
Phlda1	pleckstrin homology-like domain, family A, member 1	ENSMUSG0000002020 5
Krr1	KRR1, small subunit (SSU) processome component, homolog (yeast)	ENSMUSG0000006333 4
C4bp	complement component 4 binding protein	ENSMUSG0000002640 5
Glipr1	GLI pathogenesis-related 1 (glioma)	ENSMUSG0000005688 8
Rnf19b	ring finger protein 19B	ENSMUSG0000002879 3
Hpca	hippocalcin	ENSMUSG0000002878 5
Nfat5	nuclear factor of activated T cells 5	ENSMUSG0000000384 7
Il10	interleukin 10	ENSMUSG0000001652 9
Kdm6b	KDM1 lysine (K)-specific demethylase 6B	ENSMUSG0000001847 6
C77080	expressed sequence C77080	ENSMUSG0000005039 0
Nr1h3	nuclear receptor subfamily 1, group H, member 3	ENSMUSG0000000210 8
Tead4	TEA domain family member 4	ENSMUSG0000003035 3
Ikbke	inhibitor of kappaB kinase epsilon	ENSMUSG0000004234 9
Marcks11	MARCKS-like 1	ENSMUSG0000004794 5
Plscr1	phospholipid scramblase 1	ENSMUSG0000003236 9
F3	coagulation factor III	ENSMUSG0000002812 8
Lrp4	low density lipoprotein receptor-related protein 4	ENSMUSG0000002725 3
Plod2	procollagen lysine, 2-oxoglutarate 5-dioxygenase 2	ENSMUSG0000003237 4
Ebi3	Epstein-Barr virus induced gene 3	ENSMUSG0000000320 6
Tjp1	tight junction protein 1	ENSMUSG0000003051 6
Cd68	CD68 antigen	ENSMUSG0000001877 4
Plin4	perilipin 4	ENSMUSG0000000283 1

Elk4	ELK4, member of ETS oncogene family	ENSMUSG0000002643 6
Zfp612	zinc finger protein 612	ENSMUSG0000004467 6
Fbnp11	formin binding protein 1-like	ENSMUSG0000003973 5
Cd69	CD69 antigen	ENSMUSG0000003015 6
Mdm2	transformed mouse 3T3 cell double minute 2	ENSMUSG0000002018 4
Col16a1	collagen, type XVI, alpha 1	ENSMUSG0000004069 0
Ticam1	toll-like receptor adaptor molecule 1	ENSMUSG0000004712 3
Atp1b3	ATPase, Na ⁺ /K ⁺ transporting, beta 3 polypeptide	ENSMUSG0000003241 2
Olr1	oxidized low density lipoprotein (lectin-like) receptor 1	ENSMUSG0000003016 2
Fgf11	fibroblast growth factor 11	ENSMUSG0000004282 6
Ifng	interferon gamma	ENSMUSG0000005517 0
Dyrk2	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 2	ENSMUSG0000002863 0
Ung	uracil DNA glycosylase	ENSMUSG0000002959 1
Mapk8ip1	mitogen-activated protein kinase 8 interacting protein 1	ENSMUSG0000002722 3
Chst1	carbohydrate (keratan sulfate Gal-6) sulfotransferase 1	ENSMUSG0000002722 1
Copb2	coatamer protein complex, subunit beta 2 (beta prime)	ENSMUSG0000003245 8
Irak3	interleukin-1 receptor-associated kinase 3	ENSMUSG0000002022 7
Hmga2	high mobility group AT-hook 2	ENSMUSG0000005675 8
Tbk1	TANK-binding kinase 1	ENSMUSG0000002011 5
Oasl2	2'-5' oligoadenylate synthetase-like 2	ENSMUSG0000002956 1
Oasl1	2'-5' oligoadenylate synthetase-like 1	ENSMUSG0000004182 7
Nck1	non-catalytic region of tyrosine kinase adaptor protein 1	ENSMUSG0000003247 5
Traf6	TNF receptor-associated factor 6	ENSMUSG0000002716 4
Gtf2f1	general transcription factor IIF, polypeptide 1	ENSMUSG0000000265 8
Btg2	B cell translocation gene 2, anti-proliferative	ENSMUSG0000002042 3
Ntrk3	neurotrophic tyrosine kinase, receptor, type 3	ENSMUSG0000005914 6

Khsrp	KH-type splicing regulatory protein	ENSMUSG00000007670
Cd44	CD44 antigen	ENSMUSG00000005087
Isg20	interferon-stimulated protein	ENSMUSG00000039236
Bcar1	breast cancer anti-estrogen resistance 1	ENSMUSG00000031955
Mfge8	milk fat globule-EGF factor 8 protein	ENSMUSG00000030605
Tnfsf9	tumor necrosis factor (ligand) superfamily, member 9	ENSMUSG00000035678
Adipor1	adiponectin receptor 1	ENSMUSG00000026457
C3	complement component 3	ENSMUSG00000024164
Elf5	E74-like factor 5	ENSMUSG00000027186
Abtb2	ankyrin repeat and BTB (POZ) domain containing 2	ENSMUSG00000032724
Alox12	arachidonate 12-lipoxygenase	ENSMUSG00000000320
Sesn2	sestrin 2	ENSMUSG00000028893
Amotl2	angiomin-like 2	ENSMUSG00000032531
Atpif1	ATPase inhibitory factor 1	ENSMUSG00000054428
Vav1	vav 1 oncogene	ENSMUSG00000034116
Dusp16	dual specificity phosphatase 16	ENSMUSG00000030203
Lmo2	LIM domain only 2	ENSMUSG00000032698
Ostc	oligosaccharyltransferase complex subunit	ENSMUSG00000041084
Cdkn1b	cyclin-dependent kinase inhibitor 1B	ENSMUSG00000003031
Rpa2	replication protein A2	ENSMUSG00000028884
Cxcl16	chemokine (C-X-C motif) ligand 16	ENSMUSG00000018920
Maf	avian musculoaponeurotic fibrosarcoma (v-maf) AS42 oncogene homolog	ENSMUSG00000055435
Idh2	isocitrate dehydrogenase 2 (NADP+), mitochondrial	ENSMUSG00000030541
Psmb6	proteasome (prosome, macropain) subunit, beta type 6	ENSMUSG00000018286
Dctn2	dynactin 2	ENSMUSG00000025410
Shmt2	serine hydroxymethyltransferase 2 (mitochondrial)	ENSMUSG00000025403

Furin	furin (paired basic amino acid cleaving enzyme)	ENSMUSG00000030530
Lrp1	low density lipoprotein receptor-related protein 1	ENSMUSG00000040249
Nfkb1	nuclear factor of kappa light polypeptide gene enhancer in B cells 1, p105	ENSMUSG00000028163
Cisd2	CDGSH iron sulfur domain 2	ENSMUSG00000028165
Iqgap1	IQ motif containing GTPase activating protein 1	ENSMUSG00000030536
Rab12	RAB12, member RAS oncogene family	ENSMUSG00000023460
Sds	serine dehydratase	ENSMUSG00000029597
Nab2	Ngfi-A binding protein 2	ENSMUSG00000025402
Tlr9	toll-like receptor 9	ENSMUSG00000045322
Cpeb1	cytoplasmic polyadenylation element binding protein 1	ENSMUSG00000025586
Aebp2	AE binding protein 2	ENSMUSG00000030232
Oas2	2'-5' oligoadenylate synthetase 2	ENSMUSG00000032690
Zfp161	zinc finger protein 161	ENSMUSG00000049672
Oas3	2'-5' oligoadenylate synthetase 3	ENSMUSG00000032661
Rrp9	RRP9, small subunit (SSU) processome component, homolog (yeast)	ENSMUSG00000041506
Med31	mediator of RNA polymerase II transcription, subunit 31 homolog (yeast)	ENSMUSG00000020801
Tgif1	TGFB-induced factor homeobox 1	ENSMUSG00000047407
Homer2	homer homolog 2 (Drosophila)	ENSMUSG00000025813
Ldlrap1	low density lipoprotein receptor adaptor protein 1	ENSMUSG00000037295
Oas1b	2'-5' oligoadenylate synthetase 1B	ENSMUSG00000029605
Tmem57	transmembrane protein 57	ENSMUSG00000028826
1700018B08Rik	RIKEN cDNA 1700018B08 gene	ENSMUSG00000031809
Oas1g	2'-5' oligoadenylate synthetase 1G	ENSMUSG00000066861
2410042D21Rik	RIKEN cDNA 2410042D21 gene	ENSMUSG00000027132
Oas1a	2'-5' oligoadenylate synthetase 1A	ENSMUSG00000052776
Eif4e	eukaryotic translation initiation factor 4E	ENSMUSG00000028156

Map1lc3b	microtubule-associated protein 1 light chain 3 beta	ENSMUSG0000003181 2
D4Wsu53e	DNA segment, Chr 4, Wayne State University 53, expressed	ENSMUSG0000003726 6
Recql	RecQ protein-like	ENSMUSG0000003024 3
Clic4	chloride intracellular channel 4 (mitochondrial)	ENSMUSG0000003724 2
Ptpn11	protein tyrosine phosphatase, non-receptor type 11	ENSMUSG0000004373 3
Slc7a5	solute carrier family 7 (cationic amino acid transporter, y+ system), member 5	ENSMUSG0000004001 0
Gys2	glycogen synthase 2	ENSMUSG0000003024 4
Stat2	signal transducer and activator of transcription 2	ENSMUSG0000004003 3
Trove2	TROVE domain family, member 2	ENSMUSG0000001819 9
Cish	cytokine inducible SH2-containing protein	ENSMUSG0000003257 8
Rgs2	regulator of G-protein signaling 2	ENSMUSG0000002636 0
Il23a	interleukin 23, alpha subunit p19	ENSMUSG0000002538 3
Gbp5	guanylate binding protein 5	ENSMUSG0000004026 4
Rgs1	regulator of G-protein signaling 1	ENSMUSG0000002635 8
Gbp7	guanylate binding protein 7	ENSMUSG0000004025 3
Ptgs2	prostaglandin-endoperoxide synthase 2	ENSMUSG0000003248 7
Gbp2	guanylate binding protein 2	ENSMUSG0000002827 0
Adam1a	a disintegrin and metallopeptidase domain 1a	ENSMUSG0000007264 7
Cnr2	cannabinoid receptor 2 (macrophage)	ENSMUSG0000006258 5
Rnf166	ring finger protein 166	ENSMUSG0000001447 0
Gtf2b	general transcription factor IIB	ENSMUSG0000002827 1
Pkn2	protein kinase N2	ENSMUSG0000000459 1
1200014J11 Rik	RIKEN cDNA 1200014J11 gene	ENSMUSG0000002078 3
Lmo4	LIM domain only 4	ENSMUSG0000002826 6
Itgae	integrin alpha E, epithelial-associated	ENSMUSG0000000594 7
Rassf1	Ras association (RalGDS/AF-6) domain family member 1	ENSMUSG0000001006 7

Id3	inhibitor of DNA binding 3	ENSMUSG0000000787 2
Esyt1	extended synaptotagmin-like protein 1	ENSMUSG0000002536 6
Hyal1	hyaluronoglucosaminidase 1	ENSMUSG0000001005 1
Thbs1	thrombospondin 1	ENSMUSG0000004015 2
Ifrd2	interferon-related developmental regulator 2	ENSMUSG0000001004 8
Tax1bp3	Tax1 (human T cell leukemia virus type I) binding protein 3	ENSMUSG0000004015 8
Birc6	baculoviral IAP repeat-containing 6	ENSMUSG0000002407 3
Vps29	vacuolar protein sorting 29 (S. pombe)	ENSMUSG0000002946 2
Rnf2	ring finger protein 2	ENSMUSG0000002648 4
Ltbp1	latent transforming growth factor beta binding protein 1	ENSMUSG0000000187 0
Atp2a2	ATPase, Ca ⁺⁺ transporting, cardiac muscle, slow twitch 2	ENSMUSG0000002946 7
Fgfr1op2	FGFR1 oncogene partner 2	ENSMUSG0000004024 2
Stk38l	serine/threonine kinase 38 like	ENSMUSG0000000163 0
Cdc42	cell division cycle 42	ENSMUSG0000000669 9
Ppfibp1	PTPRF interacting protein, binding protein 1 (liprin beta 1)	ENSMUSG0000001648 7
Cyr61	cysteine rich protein 61	ENSMUSG0000002819 5
Uba7	ubiquitin-like modifier activating enzyme 7	ENSMUSG0000003259 6
Bcl10	B cell leukemia/lymphoma 10	ENSMUSG0000002819 1
Eif2ak2	eukaryotic translation initiation factor 2-alpha kinase 2	ENSMUSG0000002407 9
Mnt	max binding protein	ENSMUSG0000000028 2
Pcf11	cleavage and polyadenylation factor subunit homolog (S. cerevisiae)	ENSMUSG0000004132 8
Mst1	macrophage stimulating 1 (hepatocyte growth factor-like)	ENSMUSG0000003259 1
Rhov	ras homolog gene family, member V	ENSMUSG0000003422 6
Chac1	ChaC, cation transport regulator 1	ENSMUSG0000002731 3
2810474O1 9Rik	RIKEN cDNA 2810474O19 gene	ENSMUSG0000003271 2
Gab2	growth factor receptor bound protein 2-associated protein 2	ENSMUSG0000000450 8

1500003O03Rik	RIKEN cDNA 1500003O03 gene	ENSMUSG00000014077
Dbn1	dysbindin (dystrobrevin binding protein 1) domain containing 1	ENSMUSG00000031970
Kif17	kinesin family member 17	ENSMUSG00000028758
Gpx1	glutathione peroxidase 1	ENSMUSG00000063856
Usp4	ubiquitin specific peptidase 4 (proto-oncogene)	ENSMUSG00000032612
Ier5	immediate early response 5	ENSMUSG00000056708
Diablo	diablo homolog (Drosophila)	ENSMUSG00000029433
Stx6	syntaxin 6	ENSMUSG00000026470
Srsf7	serine/arginine-rich splicing factor 7	ENSMUSG00000024097
1700102P08Rik	RIKEN cDNA 1700102P08 gene	ENSMUSG00000032611
H28	histocompatibility 28	ENSMUSG00000039146
Serp1f	serine (or cysteine) peptidase inhibitor, clade F, member 1	ENSMUSG00000000753
Dnajb4	DnaJ (Hsp40) homolog, subfamily B, member 4	ENSMUSG00000028035
Sos1	son of sevenless homolog 1 (Drosophila)	ENSMUSG00000024241
Fubp1	far upstream element (FUSE) binding protein 1	ENSMUSG00000028034
Pak1	p21 protein (Cdc42/Rac)-activated kinase 1	ENSMUSG00000030774
Pla2g5	phospholipase A2, group V	ENSMUSG00000041193
Niacr1	niacin receptor 1	ENSMUSG00000045502
Qars	glutamyl-tRNA synthetase	ENSMUSG00000032604
Arih2	ariadne homolog 2 (Drosophila)	ENSMUSG00000064145
Myo1c	myosin IC	ENSMUSG00000017774
Zfp3612	zinc finger protein 36, C3H type-like 2	ENSMUSG00000045817
Crk	v-crk sarcoma virus CT10 oncogene homolog (avian)	ENSMUSG00000017776
Rasal2	RAS protein activator like 2	ENSMUSG00000070565
Ywhae	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, epsilon polypeptide	ENSMUSG00000020849
Abcg5	ATP-binding cassette, sub-family G (WHITE), member 5	ENSMUSG00000040505

Abcg8	ATP-binding cassette, sub-family G (WHITE), member 8	ENSMUSG00000024254
Uqcrc1	ubiquinol-cytochrome c reductase core protein 1	ENSMUSG00000025651
Arrb1	arrestin, beta 1	ENSMUSG00000018909
Eif2b1	eukaryotic translation initiation factor 2B, subunit 1 (alpha)	ENSMUSG00000029388
Irf2bp2	interferon regulatory factor 2 binding protein 2	ENSMUSG00000051495
Trex1	three prime repair exonuclease 1	ENSMUSG00000049734
Atrip	ATR interacting protein	ENSMUSG00000025646
Itgb1	integrin beta 1 (fibronectin receptor beta)	ENSMUSG00000025809
Cpd	carboxypeptidase D	ENSMUSG00000020841
Epas1	endothelial PAS domain protein 1	ENSMUSG00000024140
Scarb1	scavenger receptor class B, member 1	ENSMUSG00000037936
Ubc	ubiquitin C	ENSMUSG00000008348
Gas5	growth arrest specific 5	ENSMUSG00000053332
Ucp2	uncoupling protein 2 (mitochondrial, proton carrier)	ENSMUSG00000033685
Camp	cathelicidin antimicrobial peptide	ENSMUSG00000038357
Taok1	TAO kinase 1	ENSMUSG00000017291
Ran	RAN, member RAS oncogene family	ENSMUSG00000029430
P2ry2	purinergic receptor P2Y, G-protein coupled 2	ENSMUSG00000032860
Tubgcp4	tubulin, gamma complex associated protein 4	ENSMUSG00000027263
Smarcc1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily c, member 1	ENSMUSG00000032481
Scap	SREBF chaperone	ENSMUSG00000032485
Flot2	flotillin 2	ENSMUSG00000061981
Gorab	golgin, RAB6-interacting	ENSMUSG00000040124
Rabgef1	RAB guanine nucleotide exchange factor (GEF) 1	ENSMUSG00000025340
Sele	selectin, endothelial cell	ENSMUSG00000026582
Sell	selectin, lymphocyte	ENSMUSG00000026581

Casp9	caspase 9	ENSMUSG0000002891 4
Supt6h	suppressor of Ty 6 homolog (<i>S. cerevisiae</i>)	ENSMUSG0000000205 2
Rnf121	ring finger protein 121	ENSMUSG0000007042 6
Prdm2	PR domain containing 2, with ZNF domain	ENSMUSG0000005763 7
Pdpn	podoplanin	ENSMUSG0000002858 3
Ccr12	chemokine (C-C motif) receptor-like 2	ENSMUSG0000004395 3
B2m	beta-2 microglobulin	ENSMUSG0000006080 2
Rcsd1	RCSD domain containing 1	ENSMUSG0000004072 3
Mlh1	mutL homolog 1 (<i>E. coli</i>)	ENSMUSG0000003249 8
Creg1	cellular repressor of E1A-stimulated genes 1	ENSMUSG0000004071 3
Cd247	CD247 antigen	ENSMUSG0000000576 3
Sarm1	sterile alpha and HEAT/Armadillo motif containing 1	ENSMUSG0000005013 2
Trim21	tripartite motif-containing 21	ENSMUSG0000003096 6
Nos2	nitric oxide synthase 2, inducible	ENSMUSG0000002082 6
Tnfrsf1b	tumor necrosis factor receptor superfamily, member 1b	ENSMUSG0000002859 9
Wsb1	WD repeat and SOCS box-containing 1	ENSMUSG0000001767 7
Glb1	galactosidase, beta 1	ENSMUSG0000004559 4
Dut	deoxyuridine triphosphatase	ENSMUSG0000002720 3
Ddr2	discoidin domain receptor family, member 2	ENSMUSG0000002667 4
Cmtm6	CKLF-like MARVEL transmembrane domain containing 6	ENSMUSG0000003243 4
Clcn6	chloride channel 6	ENSMUSG0000002901 6
Gabpb1	GA repeat binding protein, beta 1	ENSMUSG0000002736 1
Ywhag	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, gamma polypeptide	ENSMUSG0000005139 1
Trim30a	tripartite motif-containing 30A	ENSMUSG0000003092 1
Zfp207	zinc finger protein 207	ENSMUSG0000001742 1
Fcer1g	Fc receptor, IgE, high affinity I, gamma polypeptide	ENSMUSG0000005871 5

Usp8	ubiquitin specific peptidase 8	ENSMUSG0000002736 3
Cdk5r1	cyclin-dependent kinase 5, regulatory subunit 1 (p35)	ENSMUSG0000004889 5
Orai2	ORAI calcium release-activated calcium modulator 2	ENSMUSG0000003974 7
Ccl2	chemokine (C-C motif) ligand 2	ENSMUSG0000003538 5
Ccl7	chemokine (C-C motif) ligand 7	ENSMUSG0000003537 3
Ccl11	chemokine (C-C motif) ligand 11	ENSMUSG0000002067 6
Ccl12	chemokine (C-C motif) ligand 12	ENSMUSG0000003535 2
Arhgap30	Rho GTPase activating protein 30	ENSMUSG0000004886 5
Ccl8	chemokine (C-C motif) ligand 8	ENSMUSG0000000918 5
Ccl1	chemokine (C-C motif) ligand 1	ENSMUSG0000002070 2
Myd88	myeloid differentiation primary response gene 88	ENSMUSG0000003250 8
Usf1	upstream transcription factor 1	ENSMUSG0000002664 1
Ncaph	non-SMC condensin I complex, subunit H	ENSMUSG0000003490 6
Lig3	ligase III, DNA, ATP-dependent	ENSMUSG0000002069 7
Tardbp	TAR DNA binding protein	ENSMUSG0000004145 9
Slamf7	SLAM family member 7	ENSMUSG0000003817 9
Rffl	ring finger and FYVE like domain containing protein	ENSMUSG0000002069 6
Dusp2	dual specificity phosphatase 2	ENSMUSG0000002736 8
Serpine1	serine (or cysteine) peptidase inhibitor, clade E, member 1	ENSMUSG0000003741 1
Cd48	CD48 antigen	ENSMUSG0000001535 5
Scn11a	sodium channel, voltage-gated, type XI, alpha	ENSMUSG0000003411 5
Ilk	integrin linked kinase	ENSMUSG0000003089 0
Csrnp1	cysteine-serine-rich nuclear protein 1	ENSMUSG0000003251 5
Slfn2	schlafen 2	ENSMUSG0000007262 0
Ctnnb1	catenin (cadherin associated protein), beta 1	ENSMUSG0000000693 2
Slfn4	schlafen 4	ENSMUSG0000000020 4

Bcl2l11	BCL2-like 11 (apoptosis facilitator)	ENSMUSG0000002738 1
Agfg2	ArfGAP with FG repeats 2	ENSMUSG0000002972 2
Tsc22d4	TSC22 domain family, member 4	ENSMUSG0000002972 3
Cck	cholecystokinin	ENSMUSG0000003253 2
Mertk	c-mer proto-oncogene tyrosine kinase	ENSMUSG0000001436 1
Slc25a33	solute carrier family 25, member 33	ENSMUSG0000002898 2
Ccl5	chemokine (C-C motif) ligand 5	ENSMUSG0000003504 2
Ccl9	chemokine (C-C motif) ligand 9	ENSMUSG0000001912 2
Ccl3	chemokine (C-C motif) ligand 3	ENSMUSG0000000098 2
Ccl4	chemokine (C-C motif) ligand 4	ENSMUSG0000001893 0
Azgp1	alpha-2-glycoprotein 1, zinc	ENSMUSG0000003705 3
Eno1	enolase 1, alpha non-neuron	ENSMUSG0000006352 4
Apcs	serum amyloid P-component	ENSMUSG0000002654 2
Slc20a1	solute carrier family 20, member 1	ENSMUSG0000002739 7
Errfi1	ERBB receptor feedback inhibitor 1	ENSMUSG0000002896 7
Mcm7	minichromosome maintenance deficient 7 (<i>S. cerevisiae</i>)	ENSMUSG0000002973 0
Aim2	absent in melanoma 2	ENSMUSG0000003786 0
Il1a	interleukin 1 alpha	ENSMUSG0000002739 9
Il1b	interleukin 1 beta	ENSMUSG0000002739 8
Ifi204	interferon activated gene 204	ENSMUSG0000007348 9
Mnda	myeloid cell nuclear differentiation antigen	ENSMUSG0000002653 6
Ifi203	interferon activated gene 203	ENSMUSG0000003999 7
Ifi205	interferon activated gene 205	ENSMUSG0000005420 3
Zfp157	zinc finger protein 157	ENSMUSG0000003689 8
Lhx1	LIM homeobox protein 1	ENSMUSG0000001869 8
Scube2	signal peptide, CUB domain, EGF-like 2	ENSMUSG0000000727 9

Dennd5a	DENN/MADD domain containing 5A	ENSMUSG0000003590 1
Tnfrsf25	tumor necrosis factor receptor superfamily, member 25	ENSMUSG0000002479 3
Pdgfa	platelet derived growth factor, alpha	ENSMUSG0000002585 6
Cpxm1	carboxypeptidase X 1 (M14 family)	ENSMUSG0000002740 8
Swap70	SWA-70 protein	ENSMUSG0000003101 5
Ccr1	chemokine (C-C motif) receptor 1	ENSMUSG0000002580 4
Ccr2	chemokine (C-C motif) receptor 2	ENSMUSG0000004910 3
Adm	adrenomedullin	ENSMUSG0000003079 0
Ampd3	adenosine monophosphate deaminase 3	ENSMUSG0000000568 6
Zfand2a	zinc finger, AN1-type domain 2A	ENSMUSG0000005358 1
4930402H2 4Rik	RIKEN cDNA 4930402H24 gene	ENSMUSG0000002730 9
Ctr9	Ctr9, Paf1/RNA polymerase II complex component, homolog (<i>S. cerevisiae</i>)	ENSMUSG0000000560 9
Mafk	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein K (avian)	ENSMUSG0000001814 3
Hnrnpu	heterogeneous nuclear ribonucleoprotein U	ENSMUSG0000003963 0
Siglec1	sialic acid binding Ig-like lectin 1, sialoadhesin	ENSMUSG0000002732 2
Lfng	LFNG O-fucosylpeptide 3-beta-N- acetylglucosaminyltransferase	ENSMUSG0000002957 0
Parva	parvin, alpha	ENSMUSG0000003077 0
Itpkb	inositol 1,4,5-trisphosphate 3-kinase B	ENSMUSG0000003885 5
Parp1	poly (ADP-ribose) polymerase family, member 1	ENSMUSG0000002649 6
Psma1	proteasome (prosome, macropain) subunit, alpha type 1	ENSMUSG0000003075 1
H3f3a	H3 histone, family 3A	ENSMUSG0000006074 3
Sde2	SDE2 telomere maintenance homolog (<i>S. pombe</i>)	ENSMUSG0000003880 6
Actb	actin, beta	ENSMUSG0000002958 0
Bmp2	bone morphogenetic protein 2	ENSMUSG0000002735 8
Gnb1	guanine nucleotide binding protein (G protein), beta 1	ENSMUSG0000002906 4
Hao1	hydroxyacid oxidase 1, liver	ENSMUSG0000002726 1

Mpo	myeloperoxidase	ENSMUSG00000009350
Gde1	glycerophosphodiester phosphodiesterase 1	ENSMUSG00000033917
Capn2	calpain 2	ENSMUSG00000026509
Jag1	jagged 1	ENSMUSG00000027276
Eprs	glutamyl-prolyl-tRNA synthetase	ENSMUSG00000026615
Flrt3	fibronectin leucine rich transmembrane protein 3	ENSMUSG00000051379
Mmd	monocyte to macrophage differentiation-associated	ENSMUSG00000003948
Crym	crystallin, mu	ENSMUSG00000030905
Tom111	target of myb1-like 1 (chicken)	ENSMUSG00000020541
Csrp2bp	cysteine and glycine-rich protein 2 binding protein	ENSMUSG00000027425
Mbtd1	mbt domain containing 1	ENSMUSG00000059474
Polr3f	polymerase (RNA) III (DNA directed) polypeptide F	ENSMUSG00000027427
Angel2	angel homolog 2 (Drosophila)	ENSMUSG00000026634
Spag9	sperm associated antigen 9	ENSMUSG00000020859
Atf3	activating transcription factor 3	ENSMUSG00000026628
Hs3st2	heparan sulfate (glucosamine) 3-O-sulfotransferase 2	ENSMUSG00000046321
Dtl	denticleless homolog (Drosophila)	ENSMUSG00000037474
Ints7	integrator complex subunit 7	ENSMUSG00000037461
Slc30a1	solute carrier family 30 (zinc transporter), member 1	ENSMUSG00000037434
Nkx2-2	NK2 transcription factor related, locus 2 (Drosophila)	ENSMUSG00000027434
Thbd	thrombomodulin	ENSMUSG00000074743
Cd93	CD93 antigen	ENSMUSG00000027435
Chad	chondroadherin	ENSMUSG00000039084
Zfp120	zinc finger protein 120	ENSMUSG00000068134
Cr11	complement component (3b/4b) receptor 1-like	ENSMUSG00000016481
6330406I15 Rik	RIKEN cDNA 6330406I15 gene	ENSMUSG00000029659

Dlx3	distal-less homeobox 3	ENSMUSG00000001510
Srxn1	sulfiredoxin 1 homolog (<i>S. cerevisiae</i>)	ENSMUSG00000032802
Csnk2a1	casein kinase 2, alpha 1 polypeptide	ENSMUSG00000074698
Apobr	apolipoprotein B receptor	ENSMUSG00000042759
Nupr1	nuclear protein 1	ENSMUSG00000030717
Mapk3	mitogen-activated protein kinase 3	ENSMUSG00000063065
Id1	inhibitor of DNA binding 1	ENSMUSG00000042745
Hck	hemopoietic cell kinase	ENSMUSG00000003283
Mvp	major vault protein	ENSMUSG00000030681
Maz	MYC-associated zinc finger protein (purine-binding transcription factor)	ENSMUSG00000030678
Copz2	coatamer protein complex, subunit zeta 2	ENSMUSG00000018672
Plagl2	pleiomorphic adenoma gene-like 2	ENSMUSG00000051413
AI467606	expressed sequence AI467606	ENSMUSG00000045165
Sephs2	selenophosphate synthetase 2	ENSMUSG00000049091
Socs7	suppressor of cytokine signaling 7	ENSMUSG00000038485
Psmb3	proteasome (prosome, macropain) subunit, beta type 3	ENSMUSG00000069744
Cbfa2t2	core-binding factor, runt domain, alpha subunit 2, translocated to, 2 (human)	ENSMUSG00000038533
Eif2s2	eukaryotic translation initiation factor 2, subunit 2 (beta)	ENSMUSG00000074656
Itch	itchy, E3 ubiquitin protein ligase	ENSMUSG00000027598
Cdk12	cyclin-dependent kinase 12	ENSMUSG00000003119
Itgam	integrin alpha M	ENSMUSG00000030786
Itgax	integrin alpha X	ENSMUSG00000030789
Trp53inp2	transformation related protein 53 inducible nuclear protein 2	ENSMUSG00000038375
Mcmbp	MCM (minichromosome maintenance deficient) binding protein	ENSMUSG00000048170
Csf3	colony stimulating factor 3 (granulocyte)	ENSMUSG00000038067
Nfs1	nitrogen fixation gene 1 (<i>S. cerevisiae</i>)	ENSMUSG00000027618

Rbm39	RNA binding motif protein 39	ENSMUSG00000027620
Top2a	topoisomerase (DNA) II alpha	ENSMUSG00000020914
Dmbt1	deleted in malignant brain tumors 1	ENSMUSG00000047517
Igfbp4	insulin-like growth factor binding protein 4	ENSMUSG00000017493
Src	Rous sarcoma oncogene	ENSMUSG00000027646
Krt14	keratin 14	ENSMUSG00000045545
Mki67	antigen identified by monoclonal antibody Ki 67	ENSMUSG00000031004
Tgm2	transglutaminase 2, C polypeptide	ENSMUSG00000037820
Acly	ATP citrate lyase	ENSMUSG00000020917
Dhx58	DEXH (Asp-Glu-X-His) box polypeptide 58	ENSMUSG00000017830
Mafb	v-maf musculoaponeurotic fibrosarcoma oncogene family, protein B (avian)	ENSMUSG00000074622
Adam8	a disintegrin and metallopeptidase domain 8	ENSMUSG00000025473
Stat5a	signal transducer and activator of transcription 5A	ENSMUSG00000004043
Plcg1	phospholipase C, gamma 1	ENSMUSG00000016933
Stat3	signal transducer and activator of transcription 3	ENSMUSG00000004040
Sirt3	sirtuin 3 (silent mating type information regulation 2, homolog) 3 (<i>S. cerevisiae</i>)	ENSMUSG00000025486
Ifitm2	interferon induced transmembrane protein 2	ENSMUSG00000060591
Ifitm1	interferon induced transmembrane protein 1	ENSMUSG00000025491
Ifitm3	interferon induced transmembrane protein 3	ENSMUSG00000025492
Ezh1	enhancer of zeste homolog 1 (<i>Drosophila</i>)	ENSMUSG00000006920
Sigirr	single immunoglobulin and toll-interleukin 1 receptor (TIR) domain	ENSMUSG00000025494
Ywhab	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein, beta polypeptide	ENSMUSG00000018326
Irf7	interferon regulatory factor 7	ENSMUSG00000025498
Sdc4	syndecan 4	ENSMUSG00000017009
Ifi35	interferon-induced protein 35	ENSMUSG00000010358
Vat1	vesicle amine transport protein 1 homolog (<i>T. californica</i>)	ENSMUSG00000034993

Wfdc2	WAP four-disulfide core domain 2	ENSMUSG00000017723
Ap2a2	adaptor protein complex AP-2, alpha 2 subunit	ENSMUSG00000002957
Tollip	toll interacting protein	ENSMUSG00000025139
Pltp	phospholipid transfer protein	ENSMUSG00000017754
Mmp9	matrix metalloproteinase 9	ENSMUSG00000017737
Hdac5	histone deacetylase 5	ENSMUSG00000008855
Ncoa5	nuclear receptor coactivator 5	ENSMUSG00000039804
Cd40	CD40 antigen	ENSMUSG00000017652
Grn	granulin	ENSMUSG00000034708
Adam11	a disintegrin and metalloproteinase domain 11	ENSMUSG00000020926
Zmynd8	zinc finger, MYND-type containing 8	ENSMUSG00000039671
Ncoa3	nuclear receptor coactivator 3	ENSMUSG00000027678
Fadd	Fas (TNFRSF6)-associated via death domain	ENSMUSG00000031077
Oraov1	oral cancer overexpressed 1	ENSMUSG00000031072
Ccnd1	cyclin D1	ENSMUSG00000070348
Map3k14	mitogen-activated protein kinase kinase kinase 14	ENSMUSG00000020941
Cebpb	CCAAT/enhancer binding protein (C/EBP), beta	ENSMUSG00000056501
Itgb3	integrin beta 3	ENSMUSG00000020689
Aurka	aurora kinase A	ENSMUSG00000027496
Dcaf7	DDB1 and CUL4 associated factor 7	ENSMUSG00000049354
Map3k3	mitogen-activated protein kinase kinase kinase 3	ENSMUSG00000020700
Rbm38	RNA binding motif protein 38	ENSMUSG00000027510
Tcam1	testicular cell adhesion molecule 1	ENSMUSG00000020712
Icam2	intercellular adhesion molecule 2	ENSMUSG00000001029
Ddx5	DEAD (Asp-Glu-Ala-Asp) box polypeptide 5	ENSMUSG00000020719
Psmc7	proteasome (prosome, macropain) subunit, alpha type 7	ENSMUSG00000027566

Axin2	axin2	ENSMUSG0000000014 2
Slc16a6	solute carrier family 16 (monocarboxylic acid transporters), member 6	ENSMUSG0000004192 0
Wipi1	WD repeat domain, phosphoinositide interacting 1	ENSMUSG0000004189 5
Fam20a	family with sequence similarity 20, member A	ENSMUSG0000002061 4
Map2k6	mitogen-activated protein kinase kinase 6	ENSMUSG0000002062 3
BC006779	cDNA sequence BC006779	ENSMUSG0000002758 0
Cdc42ep4	CDC42 effector protein (Rho GTPase binding) 4	ENSMUSG0000004159 8
Tpd52l2	tumor protein D52-like 2	ENSMUSG0000000082 7
Myt1	myelin transcription factor 1	ENSMUSG0000001050 5
Armc7	armadillo repeat containing 7	ENSMUSG0000005721 9
H3f3b	H3 histone, family 3B	ENSMUSG0000001655 9
Jmjd6	jumonji domain containing 6	ENSMUSG0000005696 2
Mfsd11	major facilitator superfamily domain containing 11	ENSMUSG0000002081 8
Sec14l1	SEC14-like 1 (<i>S. cerevisiae</i>)	ENSMUSG0000002082 3
Socs3	suppressor of cytokine signaling 3	ENSMUSG0000005311 3
Lgals3bp	lectin, galactoside-binding, soluble, 3 binding protein	ENSMUSG0000003388 0
Cbx8	chromobox 8	ENSMUSG0000002557 8
Rnf213	ring finger protein 213	ENSMUSG0000007032 7
Arhgdia	Rho GDP dissociation inhibitor (GDI) alpha	ENSMUSG0000002513 2
Csnk1d	casein kinase 1, delta	ENSMUSG0000002516 2
Metrn1	meteorin, glial cell differentiation regulator-like	ENSMUSG0000003920 8
Hist2h2aa1	histone cluster 2, H2aa1	ENSMUSG0000006395 4
Otud1	OTU domain containing 1	ENSMUSG0000004341 5
Cebpd	CCAAT/enhancer binding protein (C/EBP), delta	ENSMUSG0000007163 7
H2-Q1	histocompatibility 2, Q region locus 1	ENSMUSG0000007950 7
2610042L0 4Rik	RIKEN cDNA 2610042L04 gene	ENSMUSG0000007938 8

Gbp4	guanylate binding protein 4	ENSMUSG0000007936 3
Nat6	N-acetyltransferase 6	ENSMUSG0000007933 4
1700049E1 7Rik1	RIKEN cDNA 1700049E17 gene, gene 1	ENSMUSG0000007927 1
Psme2	proteasome (prosome, macropain) 28 subunit, beta	ENSMUSG0000007919 7
Tlr5	toll-like receptor 5	ENSMUSG0000007916 4
Igtp	interferon gamma induced GTPase	ENSMUSG0000007885 3
Evi2a	ecotropic viral integration site 2a	ENSMUSG0000007877 1
Smarca2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 2	ENSMUSG0000007861 9
Mos	Moloney sarcoma oncogene	ENSMUSG0000007836 5
Psme2b-ps	protease (prosome, macropain) 28 subunit beta B, pseudogene	ENSMUSG0000007815 3
2610024D1 4Rik	RIKEN cDNA 2610024D14 gene	ENSMUSG0000008436 2
A930011G2 3Rik	RIKEN cDNA A930011G23 gene	ENSMUSG0000008980 9
Xist	inactive X specific transcripts	ENSMUSG0000008650 3
2900056M2 0Rik	RIKEN cDNA 2900056M20 gene	ENSMUSG0000008740 3
Gp49a	glycoprotein 49 A	ENSMUSG0000008967 2
BC046401	cDNA sequence BC046401	ENSMUSG0000008527 4
Tnfsf13	tumor necrosis factor (ligand) superfamily, member 13	ENSMUSG0000008966 9
4921518K1 7Rik	RIKEN cDNA 4921518K17 gene	ENSMUSG0000008585 1
4933426K0 7Rik	RIKEN cDNA 4933426K07 gene	ENSMUSG0000008693 3
B230216N2 4Rik	RIKEN cDNA B230216N24 gene	ENSMUSG0000008970 6
Cfb	complement factor B	ENSMUSG0000009023 1
Mir17hg	MIR17 host gene 1 (non-protein coding)	ENSMUSG0000008972 6
Pcp4	Purkinje cell protein 4	ENSMUSG0000009022 3
2210019I11 Rik	RIKEN cDNA 2210019I11 gene	ENSMUSG0000009257 0
Rps27	ribosomal protein S27	ENSMUSG0000009073 3
Neat1	nuclear paraspeckle assembly transcript 1 (non-protein coding)	ENSMUSG0000009227 4

Ccdc711	coiled-coil domain containing 71 like	ENSMUSG0000009094 6
2810055G20Rik	RIKEN cDNA 2810055G20 gene	ENSMUSG0000009038 6
Zfp422-rs1	zinc finger protein 422, related sequence 1	ENSMUSG0000009151 5
Eid1	EP300 interacting inhibitor of differentiation 1	ENSMUSG0000009133 7
Hspa1b	heat shock protein 1B	ENSMUSG0000009087 7
Hspa1a	heat shock protein 1A	ENSMUSG0000009197 1
Zfp97	zinc finger protein 97	ENSMUSG0000009599 0
Dcpp1	demilune cell and parotid protein 1	ENSMUSG0000009644 5
Hmgcs1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	ENSMUSG0000009393 0
Psmb9	proteasome (prosome, macropain) subunit, beta type 9 (large multifunctional peptidase 2)	ENSMUSG0000009672 7
Zfp748	zinc finger protein 748	ENSMUSG0000009543 2
AC124475		ENSMUSG0000009695 7
4930535I16RIK	Putative uncharacterized protein	ENSMUSG0000009696 9
1700001F09Rik	RIKEN cDNA 1700001F09 gene	ENSMUSG0000009538 4
FAM48A	Putative uncharacterized protein	ENSMUSG0000009583 2
MID1	Uncharacterized protein	ENSMUSG0000009513 4
H1f0	H1 histone family, member 0	ENSMUSG0000009621 0