**Supplementary Information**

**Cardioprotective mechanism study of****salvianic acid A sodium based on proteome microarray approach and** **metabolomic profiling of rat serum after** **myocardial infarction**

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**Supplementary materials and methods**

**Myocardial infarction model**

Briefly, rat was anesthetized by ether and the thorax was shaved and disinfected with 75% alcohol. A left thoracotomy was performed and the pectoralis muscle groups were separated transversely. Opened the pericardium, took the left coronary artery, inserted the 3/8 needle carrying 5.0 suture about 2 mm below the root of the left atrial appendage, rapidly ligated left anterior descending artery, closed the thorax, sutured the incisions and gently massaged heart to recover the spontaneous breath of rats.

**Synthesis of** **the** **SAAS-biotin conjugate**

*N*-(2-(2-(2-((*R*)-3-(3,4-dihydroxyphenyl)-2-hydroxypropanamido)ethoxy)ethoxy) ethyl)-5-((3a*S*,4*S*,6a*R*)-2-oxohexahydro-1*H*-thieno[3,4-*d*]imidazol-4-yl)pentanamide (SAAS-biotin, Fig. 1B). A solution of SAAS (60 mg, 0.273 mmol), HOBT (55 mg, 0.41 mmol) and EDCI (100 mg, 0.545 mmol) in DMF (5 mL) was added *N*-(2-(2-(2-aminoethoxy)ethoxy)ethyl)-5-((3a*S*,4*S*,6a*R*)-2-oxohexa hydro-1*H*-thieno[3, 4-*d*]imidazol-4-yl)pentanamide (Biotin-PEG2-Amine, 87 mg, 0.23 mmol) at 0 °C. The mixture was reacted at room temperature for 12 h then directly applied to a reverse phase C18 column (water: acetontrile = 45:55 containing 0.1% TFA) to yield the SAAS-biotin conjugate as white solid (32 mg, 25%). 1H NMR (600 MHz, DMSO-*d*6) *δ* 8.65 (s, 1H)，8.55 (s, 1H)，7.81 (t, 1H, *J* = 6.5 Hz), 7.59 (t, 1H, *J* = 6.5 Hz), 6.58-6.59 (m, 2H), 6.43 (dd, 1H, *J* = 2.2, 7.9 Hz), 6.39 (s, 1H), 6.33 (s, 1H), 5.46 (d, 1H, *J* = 6.1 Hz), 4.28-4.31 (m, 1H), 4.10-4.13 (m, 1H), 3.93-4.96 (m, 1H), 3.48 (s, 4H), 3.34-3.39 (m, 5H), 3.17-3.22 (m, 4H), 3.07-3.10 (m, 1H), 2.81 (dd, 1H, *J* = 5.3, 12.7 Hz), 2.77 (dd, 1H, *J* = 3.5, 13.6 Hz), 2.57 (d, 1H, *J* = 12.3 Hz), 2.06 (t, 2H, *J* = 7.5 Hz), 1.57-1.63 (m, 1H), 1.41-1.52 (m, 3H), 1.25-1.32 (m, 2H). 13C NMR (150 MHz, DMSO*-d*6) *δ* 173.95, 172.65, 163.18, 145.12, 143.94, 129.71, 120.58, 117.38, 115.57, 72.97, 69.98, 69.64, 69.38, 61.52, 59.68, 55.88, 38.93, 38.51, 35.57, 28.66, 28.50, 25.72. LC-MS (ESI): calcd for C25H38N4O8S: 554.2410 [M+H]+, found: 555.2487 [M+H]+, Rt = 5.18 min.

**Protein microarray data analysis**

The results were analyzed with GenePixTM Pro v6.0 software. Briefly, the signal-to-noise ratio (SNR) was used to evaluate the specificity with the following formula: SNR=[F(mean)-B(mean)]/B(SD), with F(mean) was the mean of fluorescence signals, B(mean) was the mean of background signal and B(SD) was the standard deviation of the background signal. Another index, Z-Score was used to identify the target proteins, which was calculated as [α-α(median)]/α(SD) (α=F(median)/B(median); α(median): the median of all α values; α(SD): the standard deviation of all α values). Proteins with Z-Score ≥ 3 and *P* value ≤ 0.05 were regarded as potential targets.

Gene Ontology (GO) analysis including biological process, cellular component and molecular function, provides defined terms to describe gene product attributes (www.geneontology.org). PANTHER is a protein class analysis method that relates protein sequence to function in a potent and accurate way (http://panther.celera.com). Kyoto Encyclopedia of Genes and Genomes (KEGG) is a collection of databases dealing with genomes, biological pathways, diseases, drugs and chemical substances (http://en.wikipedia.org/wiki/KEGG). Search Tool for the Retrieval of Interacting Genes (STRING) database (http://string-db.org/) and Cytoscape software v3.5.1 (http://www.cytoscape.org/download.php) were used to analyze the protein-protein interactions and construct the interaction networks of the target binding proteins. GO, PANTHER, KEGG, STRING databases and Cytoscape software were used for bioinformatics analysis of the potential targets.

**Metabolomic profiling of rat serum**

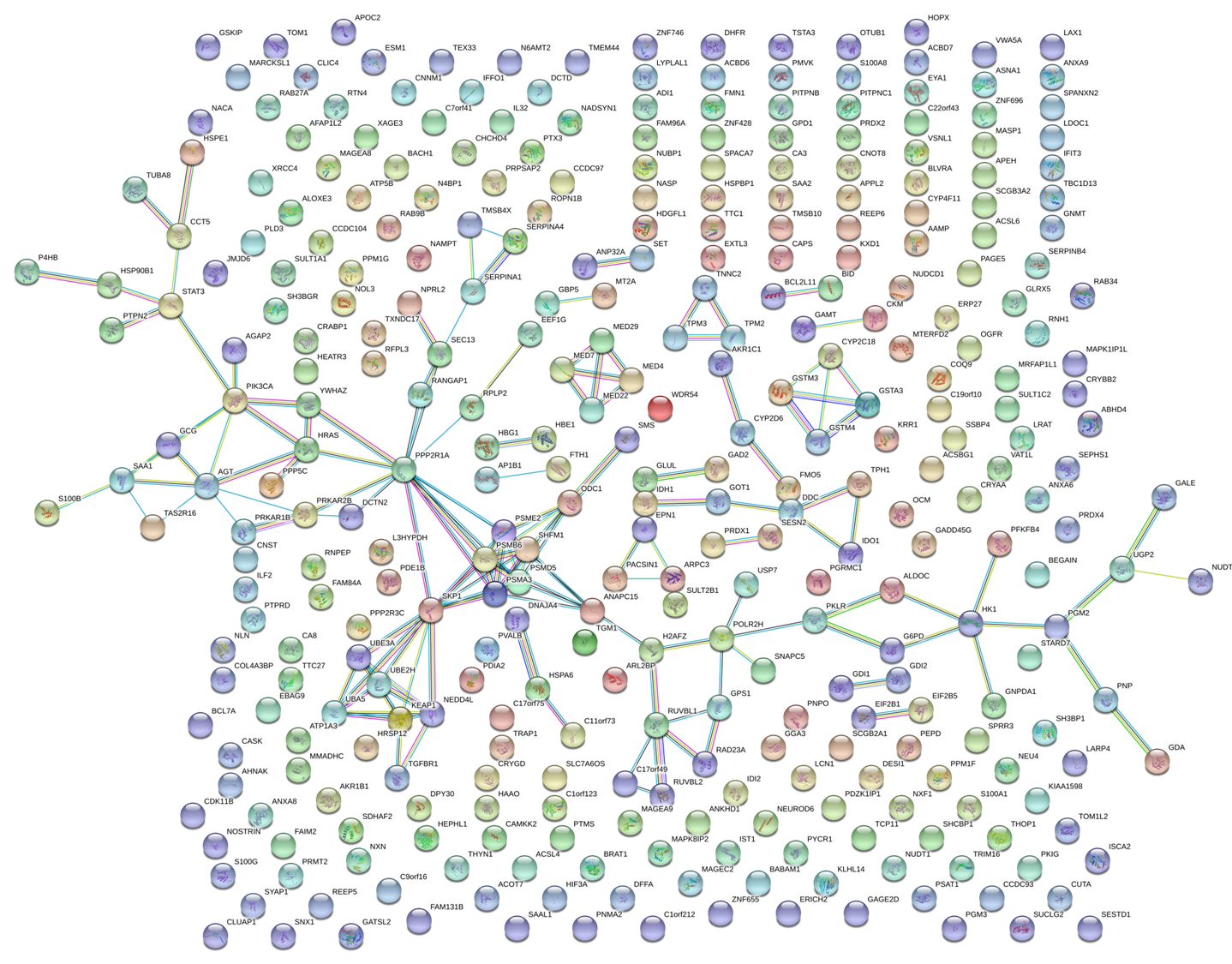
The injection volume was 4 μL and the flow rate was 400 μL/min. An electrospray ionization source interface was used and operated in both positive and negative modes. The following parameters were employed: capillary voltage, 3.5 kV; drying gas flow, 11 L/min; gas temperature, 350 °C; nebulizer pressure, 45 psig; fragmentor voltage, 120 V; skimmer voltage, 60 V. Data were collected in centroid mode and the mass range was set at *m/z* (mass-to-charge) 50-1000 using extended dynamic range. The MS/MS spectra of metabolites were obtained by a collision energy ramp from 10 to 30 eV.

Raw data was analyzed by Agilent MassHunter Quantitative Analysis software and R software (https://cran.r-project.org/). Then, retention time (RT), *m/z* and peak height intensities were imported into SIMCA-P V11.0 statistical software (Umetrics, Sweden). Partial least squares discriminant analysis (PLS-DA), a sophisticated supervised model widely used in metabolomics study, was adopted to identify the discriminating ions contributing to the classification. The ions with Variable Importance (VIP) ≥ 1.5 selected by SIMCA-P were further undergone an independent *t*-test and those with statistical significance (*P* < 0.05) were targeted. The MS spectra and MS/MS fragments of the potential biomarkers were compared with those in databases of HMDB (http://www.hmdb.ca), METLIN (http://metlin. scripps.edu) and KEGG (http://www.kegg.jp). Some interesting metabolites were confirmed with the commercially available standards by comparison of retention time and isotopic distribution. Metabolic pathway analysis was performed using MetaboAnalyst 3.0 database (http://www.metaboanalyst.ca).

**Supplementary Figs**

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**Fig. S1.** Identification of SAAS-binding proteins using a human proteome microarray. (A) Microarray scanning results and (B) typical SAAS-binding proteins.

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**Fig. S2.** The protein-protein interactions network of the SAAS-binding proteins obtained from STRING with a confidence score > 0.9.

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**Fig. S3.** The protein-protein interactions network of the SAAS-binding proteins obtained from Cytoscape v3.5.1 software according to the betweenness centrality (BC) index. Bold black line refers to BC > 700 of the linked proteins.

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**Fig. S4.** Typical total ion chromatograms (TIC) of rat serum separated on (A) RPLC and (B) HILIC columns.

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**Fig. S5.** Box-and-whisker plots showing integrated intensities for potential biomarkers from HILIC-MS data reversed by SAAS in sham, MI and SAAS therapy groups (n = 6).

1. **Supplementary Table**

**Table 1.** SAAS-binding proteins identified by proteome microarray.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene Symbol** | **ID** | **Gene Symbol** | **ID** | **Gene Symbol** | **ID** |
| LDOC1 | JHU03509.P037G01 | BID | JHU06529.P069C08 | GLRX5 | JHU12382.P130F03 |
| RNH1 | JHU02763.P029H07 | OTUB1 | JHU06108.P064C12 | BCL2L11 | JHU12736.P134F11 |
| RUVBL2 | JHU02568.P027G07 | HSPE1 | JHU06264.P066D06 | VSNL1 | JHU14704.P154F11 |
| SERPINA4 | JHU02002.P021H01 | MMADHC | JHU06245.P066D10 | ACOT7 | JHU11903.P125E03 |
| LDOC1 | JHU03509.P037H01 | PPP2R1A | JHU05345.P056D12 | AK094777.1 | JHU13451.P141E03 |
| S100A8 | JHU02849.P030G01 | FAM131B | JHU05594.P059B09 | CLUAP1 | JHU14927.P157E03 |
| DPY30 | JHU03411.P036G01 | CRABP1 | JHU03868.P041A01 | HEATR3 | JHU12667.P133F08 |
| PSAT1 | JHU02366.P025G02 | NEUROD6 | JHU07348.P080A09 | NOSTRIN | JHU15153.P159F12 |
| PRDX2 | JHU02655.P028H10 | PSME2 | JHU04864.P051B10 | ZNF655 | JHU12825.P134F12 |
| ANAPC15 | JHU03470.P037H02 | SESTD1 | JHU07568.P079B10 | PKLR | JHU14676.P154F08 |
| DCTN2 | JHU02899.P031H03 | ACSL6 | JHU06145.P065A10 | TTC1 | JHU14894.P156E12 |
| PSMA3 | JHU03721.P039H03 | PFKFB4 | JHU03996.P042A06 | ANXA9 | JHU12544.P132F04 |
| UBA5 | JHU03542.P037G11 | REEP6 | JHU06500.P068A07 | SAA1 | JHU14596.P153D02 |
| IFIT3 | JHU00323.P004H07 | ACBD7 | JHU03846.P041A08 | HBE1 | JHU12954.P136C07 |
| ERP27 | JHU03011.P032H03 | CCDC97 | JHU04911.P052A06 | AGAP2 | JHU12842.P135C12 |
| PRMT2 | JHU00072.P001H04 | OGFR | JHU08317.P087H09 | ANXA8 | JHU15097.P159C08 |
| KXD1 | JHU02703.P029H08 | MED22 | JHU11024.P115H09 | ARL2BP | JHU15098.P159C12 |
| AGT | JHU03461.P037H12 | COQ9 | JHU09712.P102G10 | ALDH9A1 | JHU16249.P142D12 |
| ADI1 | JHU02498.P027G12 | DFFA | JHU10868.P114G02 | PSMB6 | JHU14684.P154D12 |
| SCGB3A2 | JHU03341.P035G08 | RTN4 | JHU08334.P087G06 | TPM2 | JHU11886.P124C04 |
| GCG | JHU03687.P039G12 | APEH | JHU08647.P091G06 | NLN | JHU13749.P144D12 |
| ADI1 | JHU02498.P027H12 | TBC1D13 | JHU11025.P115H11 | BCL7A | JHU13409.P141B07 |
| CAPS | JHU03670.P039H08 | ACSBG1 | JHU08259.P087G12 | CRYGD | JHU14928.P157B11 |
| COL4A3BP | JHU00022.P001G04 | EEF1G | JHU09810.P103G08 | EPN1 | JHU12367.P130A09 |
| SESN2 | JHU03435.P036G12 | GDI2 | JHU08388.P088G02 | HRAS | JHU13735.P144A09 |
| KJ901248 | JHU03784.P040G12 | OTUB1 | JHU09373.P098G04 | TRIM16 | JHU13780.P144B06 |
| GADD45G | JHU02812.P030H10 | GAMT | JHU08296.P087E03 | TMSB4X | JHU12525.P131A02 |
| H2AFZ | JHU01867.P020G06 | PGM2 | JHU08703.P091E09 | HIF3A | JHU15123.P159A10 |
| MRFAP1L1 | JHU02929.P031F05 | GAD2 | JHU10971.P115E09 | NXN | JHU12028.P126B07 |
| HAAO | JHU03691.P039E07 | HBG1 | JHU08775.P092F09 | TOM1L2 | JHU12430.P130B03 |
| L3HYPDH | JHU03473.P037F01 | BLVRA | JHU09317.P098F01 | MED4 | JHU13943.P146B03 |
| SDHAF2 | JHU03656.P039E09 | UGP2 | JHU08057.P084E05 | SSC5D | JHU12875.P135B03 |
| C9orf16 | JHU02418.P026E01 | GSTA3 | JHU08773.P092E09 | NEDD4L | JHU13360.P140B07 |
| SERPINA1 | JHU03628.P038E05 | LCN1 | JHU09552.P100E01 | RANGAP1 | JHU12697.P133B12 |
| C1orf123 | JHU03372.P036E05 | EIF2B5 | JHU08287.P087F02 | CYP4F11 | JHU13614.P143B08 |
| MED29 | JHU03308.P035F06 | NADSYN1 | JHU08698.P091F06 | RNH1 | JHU13091.P137A12 |
| S100B | JHU03534.P037F06 | TPH1 | JHU10261.P107F02 | ANKHD1 | JHU12543.P132A08 |
| RPLP2 | JHU02847.P030F03 | MT2A | JHU07741.P081E10 | BABAM1 | JHU02539.P189G02 |
| AHNAK | JHU03169.P034F03 | ATP1A3 | JHU08835.P093E06 | NUDCD1 | JHU16316.P171H08 |
| GAGE2D | JHU03391.P036E07 | ZNF428 | JHU10075.P105E02 | ZNF746 | JHU29101.P183H08 |
| IGL@ | JHU03695.P039F03 | TCP11 | JHU08046.P084F02 | SMS | JHU14054.P191H04 |
| STAT3 | JHU03250.P034E11 | PPP5C | JHU09285.P097F06 | TGFBR1 | JHU19540.P198H02 |
| PGM3 | JHU02364.P025F04 | HK1 | JHU08679.P091E06 | RAD23A | JHU16026.P168H04 |
| SULT1A1 | JHU02381.P025E04 | NUDT1 | JHU09465.P099E10 | TEX33 | JHU07207.P178G12 |
| KEAP1 | JHU02347.P025E08 | GALE | JHU08583.P090F03 | FMO5 | JHU08385.P193F11 |
| ACBD6 | JHU02785.P030F12 | CRYAA | JHU09715.P102F03 | THYN1 | JHU16333.P171E07 |
| SAAL1 | JHU00559.P006E04 | GNMT | JHU08003.P084E11 | ANXA6 | JHU03948.P177F05 |
| LARP4 | JHU00624.P007D09 | SCGB2A1 | JHU09962.P104E11 | PNMA2 | JHU15552.P163E01 |
| SEC13 | JHU03536.P037D03 | CA3 | JHU09803.P103F07 | HSP90B1 | JHU00037.P192F09 |
| TMSB10 | JHU03540.P037D11 | PIK3CA | JHU11201.P117E07 | FTH1 | JHU15414.P162E05 |
| AKR1B1 | JHU02500.P027C01 | MYDGF | JHU08267.P087E08 | VWA5A | JHU11757.P191F06 |
| PTPN2 | JHU03047.P032D01 | PKIG | JHU11003.P115F08 | AAMP | JHU16389.P173E02 |
| SNAPC5 | JHU01904.P020C09 | MTURN | JHU10377.P109E04 | BC067366.1 | JHU16408.P173F02 |
| KIAA1598 | JHU03790.P040C09 | SYAP1 | JHU07852.P082F04 | DHFR | JHU16402.P173F06 |
| CA8 | JHU00586.P007D06 | CRYBB2 | JHU09716.P102F04 | GPD1 | JHU03973.P177F10 |
| IDI2 | JHU03694.P039D02 | TRAP1 | JHU08631.P090F10 | UBE2H | JHU07580.P178F11 |
| TEX2 | JHU03730.P039D06 | PRDX1 | JHU08992.P094E12 | FAM96A | JHU14106.P180E03 |
| ALDOC | JHU02884.P031C02 | PAGE5 | JHU10427.P109C01 | IGHA2 | JHU15326.P161E03 |
| KRR1 | JHU01681.P018D03 | GPS1 | JHU09442.P099C11 | RAB34 | JHU15448.P162E03 |
| ODAM | JHU02838.P030D07 | RAB9B | JHU11012.P115C03 | PPM1F | JHU16459.P173F08 |
| GSTM4 | JHU03582.P038D11 | ROPN1B | JHU11015.P115C05 | RUVBL1 | JHU02091.P189F04 |
| DDC | JHU02520.P027D07 | CYP2C18 | JHU11249.P118C01 | WHAMMP3 | JHU15572.P163E08 |
| TNNC2 | JHU02011.P021C11 | TGM1 | JHU08437.P088C09 | EYA1 | JHU19721.P183F12 |
| TSTA3 | JHU02388.P025C03 | XAGE3 | JHU09595.P100D02 | VAT1L | JHU06864.P190F06 |
| MAGEA8 | JHU02742.P029C07 | APPL2 | JHU09225.P097D02 | MTERF4 | JHU13646.P188E06 |
| CCDC93 | JHU01651.P018C03 | PRDX4 | JHU09182.P096D07 | GNPDA1 | JHU01864.P176F12 |
| FANCI | JHU03505.P037D04 | MAGEA9 | JHU08970.P094C07 | HEPHL1 | JHU19294.P196F04 |
| TXNDC17 | JHU04604.P023C04 | S100A1 | JHU07755.P081D08 | Nol3 | JHU19589.P181C05 |
| POLR2H | JHU02560.P027C04 | ABHD4 | JHU08449.P089D12 | REEP5 | JHU15363.P161D03 |
| SAA2 | JHU03340.P035D08 | SERPINB4 | JHU08337.P087C04 | CFAP36 | JHU18245.P179C05 |
| GLUL | JHU01583.P017C04 | PSAT1 | JHU07936.P083D08 | LAX1 | JHU15620.P164D05 |
| SNX1 | JHU02776.P029A05 | PNP | JHU10998.P115D12 | HOPX | JHU16522.P174C05 |
| NXF1 | JHU01987.P021B05 | APOC2 | JHU07681.P081C12 | DNAJA4 | JHU15406.P162D01 |
| SULT1C2 | JHU02194.P023A09 | HDGFL1 | JHU10686.P112C06 | CFAP36 | JHU18245.P180C05 |
| GSTM3 | JHU02244.P024B05 | S100G | JHU10343.P108D04 | PRKAR2B | JHU16126.P169C02 |
| TPM3 | JHU02296.P024B09 | CCT5 | JHU08938.P094C04 | PTX3 | JHU19332.P196D06 |
| LYPLAL1 | JHU03413.P036B01 | ATP5B | JHU07875.P083B09 | NEU4 | JHU16976.P200D06 |
| IDO1 | JHU01676.P018A09 | DRICH1 | JHU09071.P095B05 | PTPRD | JHU19527.P198C06 |
| ILF2 | JHU02824.P030B09 | P4HB | JHU09085.P095B09 | KJ901215 | JHU16463.P173D10 |
| PDZK1IP1 | JHU03430.P036A05 | SULT2B1 | JHU10060.P105B07 | CYP2D6 | JHU15593.P164C07 |
| PGRMC1 | JHU03331.P035B10 | TUBA8 | JHU10263.P107A11 | ODC1 | JHU01407.P176C03 |
| PITPNB | JHU03718.P039B06 | PRKAR1B | JHU11009.P115A07 | PLEKHM2 | JHU15353.P161C11 |
| IL32 | JHU03696.P039B10 | G6PD | JHU08472.P089B05 | THOP1 | JHU12713.P188D03 |
| DFFA | JHU03491.P037A10 | PLD3 | JHU07931.P083A09 | NUBP1 | JHU15922.P167C08 |
| GSTM3 | JHU02243.P024B10 | BEGAIN | JHU08593.P090A09 | SH3BGR | JHU09966.P191C04 |
| ANP32A | JHU02115.P023B03 | AFAP1L2 | JHU08646.P091B02 | MAPK8IP2 | JHU14022.P179D12 |
| NASP | JHU02553.P027B03 | TAS2R16 | JHU08517.P089A02 | YWHAZ | JHU16146.P169C04 |
| EBAG9 | JHU01948.P021A11 | UBE3A | JHU08531.P089A10 | IDH1 | JHU15992.P168D08 |
| HSPBP1 | JHU02818.P030A11 | PTMS | JHU11105.P116B10 | MASP1 | JHU15720.P192D04 |
| AKR1C1 | JHU03170.P034A03 | CHCHD4 | JHU09244.P097B02 | ALOXE3 | JHU15865.P167B01 |
| UBQLN4 | JHU02783.P029B12 | PRPSAP2 | JHU10626.P111A10 | NUDT14 | JHU16889.P199B01 |
| RP11287D1.4 | JHU03514.P037B04 | GSKIP | JHU08550.P090B03 | SPACA7 | JHU19056.P193A01 |
| HRSP12 | JHU01589.P017A12 | JMJD6 | JHU09735.P102B11 | CUTA | JHU18996.P193A09 |
| MED7 | JHU01944.P021A12 | OCM | JHU10126.P106B07 | XRCC4 | JHU03452.P187A07 |
| LRAT | JHU03595.P038B10 | SKP1 | JHU07945.P083B11 | PPP2R3C | JHU16371.P172A01 |
| PEPD | JHU05526.P058H09 | EXTL3 | JHU09255.P097A03 | EIF2B1 | JHU07225.P176A05 |
| SEPHS1 | JHU06506.P068H06 | CAMKK2 | JHU09901.P104B07 | FMN1 | JHU15698.P165A02 |
| DESI1 | JHU03872.P041H02 | CLIC4 | JHU08556.P090A03 | FAM131B | JHU16409.P173A10 |
| PSMA3 | JHU05813.P061G11 | ERICH2 | JHU10895.P114A07 | CKM | JHU00018.P189A02 |
| GOT1 | JHU06460.P068H07 | CNNM1 | JHU10582.P111A12 | BACH1 | JHU19795.P184B10 |
| SSBP4 | JHU06511.P068G06 | NACA | JHU10995.P115B12 | RNPEP | JHU04008.P190A06 |
| WDR54 | JHU07386.P080H08 | SLC7A6OS | JHU08138.P085A12 | MARCKSL1 | JHU16451.P173B10 |
| NPRL2 | JHU06231.P065E05 | PPM1G | JHU08990.P094B08 | CDK11B | JHU19459.P198B11 |
| SHFM1 | JHU03919.P041F05 | PSMD5 | JHU08804.P092A08 | IGKC | JHU16431.P173A07 |
| ISCA2 | JHU05322.P056F01 | PACSIN1 | JHU09374.P098B10 | GBP5 | JHU15603.P164B03 |
| GLUL | JHU05602.P059F10 | STARD7 | JHU09201.P096A06 | ESM1 | JHU14829.P192B07 |
| TOM1 | JHU05842.P061E06 | TTC27 | JHU10166.P106A08 | GGA3 | JHU16186.P170A11 |
| SHCBP1 | JHU04112.P043E10 | PYCR1 | JHU14776.P155G03 | IST1 | JHU15907.P167B08 |
| FAM84A | JHU07431.P078F07 | ARPC3 | JHU13313.P140H09 | PVALB | JHU16554.P174B10 |
| PNPO | JHU04578.P048E03 | PMVK | JHU13183.P138G05 | CNST | JHU16344.P172A02 |
| IGK | JHU05320.P056E07 | SPRR3 | JHU14973.P157G06 | SUCLG2 | JHU16378.P172A06 |
| TMEM44 | JHU03930.P041E03 | N6AMT2 | JHU12977.P136G07 | CASK | JHU19456.P198A04 |
| C17orf75 | JHU06343.P067E12 | CAMKK2 | JHU12742.P134G03 | MAGEA9 | JHU18292.P210H01 |
| BAP18 | JHU05964.P063F04 | GDI1 | JHU12758.P134H10 | PDE1B | JHU18211.P209F09 |
| C11orf73 | JHU05288.P056E04 | KLHL14 | JHU15051.P158H10 | N4BP1 | JHU17835.P221E11 |
| RFPL3 | JHU05744.P060E10 | ASNA1 | JHU13116.P138G04 | ZNF696 | JHU17111.P201E12 |
| CNOT8 | JHU06166.P065C01 | IFFO1 | JHU13149.P138G12 | USP7 | JHU17961.P222F02 |
| MAGEC2 | JHU06193.P065C05 | ACSL4 | JHU11713.P123E07 | GATSL2 | JHU10701.P225C07 |
| MAPK1IP1L | JHU04809.P051C11 | FAM131B | JHU12373.P130E05 | SH3BP1 | JHU18315.P210C11 |
| GDA | JHU06755.P071C01 | BRAT1 | JHU12557.P132E09 | AP1B1 | JHU18650.P215C12 |
| RAB27A | JHU07273.P076D05 | NAMPT | JHU11960.P125E02 | PDIA2 | JHU18017.P223C04 |
| PITPNC1 | JHU04197.P044C11 | DCTD | JHU13430.P141E06 | SPANXN2 | JHU17493.P217A10 |
| SMIM12 | JHU04619.P049C12 | SET | JHU14968.P157E10 | HSPA6 | JHU18279.P210A07 |
| SERPINA1 | JHU06214.P065C08 |  |  |  |  |