**Table S1: The 828 significant genes associated with hypertension**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene Symbol** | **Uniprot ID** | **Gene Symbol** | **Uniprot ID** | **Gene Symbol** | **Uniprot ID** |
| AGT | P01019 | GNAI1 | P63096 | GABBR1 | Q9UBS5 |
| INS | P01308 | KNG1 | P01042 | HAO2 | Q9NYQ3 |
| ACE | P12821 | GHRH | P01286 | PLAUR | Q03405 |
| REN | P00797 | FAS | P25445 | ATP1A2 | P50993 |
| EDN1 | P05305 | MAPKAPK2 | P49137 | PHEX | P78562 |
| LEP | P41159 | C5AR1 | P21730 | CACNB2 | Q08289 |
| NOS3 | P29474 | BCL2 | P10415 | PLCD3 | Q8N3E9 |
| ADD1 | P35611 | CYP1B1 | Q16678 | CSK | P41240 |
| NPPA | P01160 | KCNJ1 | P48048 | THBS4 | P35443 |
| CYP11B2 | P19099 | JAK1 | P23458 | EP300 | Q09472 |
| ANG | P03950 | GAPDH | P04406 | MAPT | P10636 |
| ADRB2 | P07550 | AQP1 | P29972 | SUCNR1 | Q9BXA5 |
| AGTR1 | P30556 | LPIN1 | Q14693 | TRPM6 | Q9BX84 |
| ADIPOQ | Q15848 | TGFBR1 | P36897 | CP | P00450 |
| TNF | P01375 | PRKG1 | Q13976 | COL1A2 | P08123 |
| RHOD | O00212 | LIPC | P11150 | RCAN1 | P53805 |
| NR3C2 | P08235 | HGF | P14210 | MAPK9 | P45984 |
| IL6 | P05231 | DDAH1 | O94760 | WISP1 | O95388 |
| PPARG | P37231 | JAK2 | O60674 | MRC1 | P22897 |
| BMPR2 | Q13873 | OLR1 | P78380 | COX4NB | O43402 |
| EDNRA | P25101 | IL17A | Q16552 | PRKCG | P05129 |
| WNK4 | Q96J92 | ATP2A2 | P16615 | CDKN1A | P38936 |
| CRP | P02741 | AHR | P35869 | PTPN1 | P18031 |
| HBB | P68871 | PRCP | P42785 | IL1R1 | P14778 |
| SELP | P16109 | NPY1R | P25929 | KLK11 | Q9UBX7 |
| RHOA | P61586 | CFH | P08603 | SMAD1 | Q15797 |
| SERPINA4 | P29622 | RENBP | P51606 | CACNA1D | Q01668 |
| SERPINE1 | P05121 | ERAP2 | Q6P179 | CASP8 | Q14790 |
| HMOX1 | P09601 | CLU | P10909 | ADORA1 | P30542 |
| HRAS | P01112 | ARL6IP5 | O75915 | QPCT | Q16769 |
| ACE2 | Q9BYF1 | IL6ST | P40189 | CMYA5 | Q8N3K9 |
| EPO | P01588 | COL4A3 | Q01955 | ENG | P17813 |
| WNK1 | Q9H4A3 | LGALS3 | P17931 | A1BG | P04217 |
| PTGS2 | P35354 | SLC12A6 | Q9UHW9 | ABCG8 | Q9H221 |
| NOS2 | P35228 | FGF2 | P09038 | ROS1 | P08922 |
| VEGFA | P15692 | TRHR | P34981 | TNFRSF10A | O00220 |
| F2 | P00734 | IFNG | P01579 | HPCAL1 | P37235 |
| HSD11B2 | P80365 | BMP2 | P12643 | NPHS2 | Q9NP85 |
| LPA | P08519 | APEX1 | P27695 | PREP | P48147 |
| APOE | P02649 | RHO | P08100 | DMD | P11532 |
| SGK1 | O00141 | S100A4 | P26447 | S1PR2 | O95136 |
| MAT2B | Q9NZL9 | MKKS | Q9NPJ1 | SLC34A2 | O95436 |
| ACSM3 | Q53FZ2 | ROCK2 | O75116 | CYSLTR2 | Q9NS75 |
| IGF1 | P05019 | TLR4 | O00206 | MMP7 | P09237 |
| ACTG2 | P63267 | RTN4 | Q9NQC3 | HOXA5 | P20719 |
| ADM | P35318 | SLC2A1 | P11166 | IL1RN | P18510 |
| APOB | P04114 | TGFB3 | P10600 | THRA | P10827 |
| GNB3 | P16520 | MTR | Q99707 | HLA-A | P04439 |
| VWF | P04275 | IGF1R | P08069 | AXL | P30530 |
| MMP9 | P14780 | CACNA1C | Q13936 | RFFL | Q8WZ73 |
| PPARA | Q07869 | ATP1B1 | P05026 | ARRDC3 | Q96B67 |
| POMC | P01189 | TACR1 | P25103 | ABO | P16442 |
| PTH | P01270 | IL2RA | P01589 | GSTM5 | P46439 |
| ADRA2B | P18089 | TBXAS1 | P24557 | NPY5R | Q15761 |
| ICAM1 | P05362 | ATP6AP2 | O75787 | FGFBP1 | Q14512 |
| NOS1 | P29475 | PROS1 | P07225 | GJA4 | P35212 |
| LPL | P06858 | F11R | Q9Y624 | CACNA1H | O95180 |
| EDNRB | P24530 | IL8 | P10145 | DRD3 | P35462 |
| PPP3CA | Q08209 | HSF1 | Q00613 | AVPR2 | P30518 |
| AKT1 | P31749 | SRC | P12931 | PDGFD | Q9GZP0 |
| PRL | P01236 | PFN1 | P07737 | G6PD | P11413 |
| CAT | P04040 | ADRA1A | P35348 | FSHR | P23945 |
| CAV1 | Q03135 | HLA-DQB1 | P01920 | SGPL1 | O95470 |
| GHRL | Q9UBU3 | CPB2 | Q96IY4 | IGFBP1 | P08833 |
| PRKCA | P17252 | SULT1A1 | P50225 | HSPB7 | Q9UBY9 |
| ADRB3 | P13945 | RLN1 | P04808 | TGFA | P01135 |
| INSR | P06213 | PRSS8 | Q16651 | CYP2C19 | P33261 |
| NEDD4L | Q96PU5 | CYP2C9 | P11712 | SORBS1 | Q9BX66 |
| NFKB1 | P19838 | ELANE | P08246 | MGAM | O43451 |
| FOS | P01100 | GSTM3 | P21266 | ADM2 | Q7Z4H4 |
| NPPB | P16860 | GATA6 | Q92908 | MMP8 | P22894 |
| GJA5 | P36382 | NEDD4 | P46934 | PRKAA1 | Q13131 |
| IL1B | P01584 | COX1 | P00395 | TLX2 | O43763 |
| SLC6A4 | P31645 | WNK2 | Q9Y3S1 | GRK1 | Q15835 |
| HLA-DOA | P06340 | MAOB | P27338 | ABCA3 | Q99758 |
| THBD | P07204 | MYC | P01106 | CYP2C8 | P10632 |
| SLC12A1 | Q13621 | HLA-DQA2 | P01906 | ATP8 | P03928 |
| ADRB1 | P08588 | S100A6 | P06703 | TG | P01266 |
| VCAM1 | P19320 | MCAT | Q8IVS2 | ITGA4 | P13612 |
| RGS2 | P41220 | KCNN4 | O15554 | SLC14A2 | Q15849 |
| AVP | P01185 | XYLT2 | Q9H1B5 | PDE3A | Q14432 |
| APLN | Q9ULZ1 | PPIG | Q13427 | LDOC1 | O95751 |
| CYP3A5 | P20815 | NFATC2 | Q13469 | PAPSS1 | O43252 |
| ELN | P15502 | SIRT1 | Q96EB6 | ALOX15 | P16050 |
| CALCA | P06881 | ITGAL | P20701 | PDIK1L | Q8N165 |
| GRK4 | P32298 | APLNR | P35414 | NPCDR1 | Q9BY65 |
| ROCK1 | Q13464 | CD63 | P08962 | RPS6KA3 | P51812 |
| CST3 | P01034 | HNF1A | P20823 | SLC4A4 | Q9Y6R1 |
| SCNN1B | P51168 | PHB2 | Q99623 | RARRES2 | Q99969 |
| EDN3 | P14138 | KCNMB4 | Q86W47 | SMAD7 | O15105 |
| HIF1A | Q16665 | PAH | P00439 | PDE4D | Q08499 |
| ANGPT1 | Q15389 | HSPD1 | P10809 | ARHGEF12 | Q9NZN5 |
| TH | P07101 | MAPK3 | P27361 | HSPA8 | P11142 |
| ADRA2A | P08913 | TNC | P24821 | CEBPZ | Q03701 |
| DDAH2 | O95865 | GHR | P10912 | BLK | P51451 |
| MTHFR | P42898 | HLA-DPB1 | P04440 | DNASE1 | P24855 |
| HSPA4 | P34932 | STAT1 | P42224 | SLC4A2 | P04920 |
| CD36 | P16671 | AQP2 | P41181 | TRPC6 | Q9Y210 |
| IAPP | P10997 | SLC5A1 | P13866 | HRH2 | P25021 |
| EGFR | P00533 | NPY6R | Q99463 | CALCR | P30988 |
| C3 | P01024 | GUCA2B | Q16661 | GJB1 | P08034 |
| MMP2 | P08253 | DEFA1 | P59665 | CDH13 | P55290 |
| SLC9A1 | P19634 | KCNMB1 | Q16558 | SLC22A3 | O75751 |
| UTS2 | O95399 | CYP27B1 | O15528 | CCR7 | P32248 |
| ATP1A1 | P05023 | ID1 | P41134 | SMAD2 | Q15796 |
| GCG | P01275 | ADD3 | Q9UEY8 | DNTT | P04053 |
| HSD11B1 | P28845 | IGKV1D-39 | P04432 | GYS1 | P13807 |
| CMA1 | P23946 | GLO1 | Q04760 | PLAU | P00749 |
| NGF | P01138 | P2RY2 | P41231 | PTPRO | Q16827 |
| ESR1 | P03372 | PROK1 | P58294 | IGF2 | P01344 |
| HP | P00738 | EPAS1 | Q99814 | DPP4 | P27487 |
| ESR2 | Q92731 | HMOX2 | P30519 | SERPINB2 | P05120 |
| AGTR2 | P50052 | SERPINA3 | P01011 | PSMA6 | P60900 |
| SOD1 | P00441 | IL11 | P20809 | TNFRSF11B | O00300 |
| EPHX2 | P34913 | KLK1 | P06870 | XDH | P47989 |
| MTPN | P58546 | ADRA2C | P18825 | CYP11A1 | P05108 |
| GCLC | P48506 | PCNA | P12004 | STIM1 | Q13586 |
| CCL2 | P13500 | TBXA2R | P21731 | ILK | Q13418 |
| RAC1 | P63000 | FASLG | P48023 | CDH15 | P55291 |
| CYBA | P13498 | SLC26A6 | Q9BXS9 | CCR5 | P51681 |
| JUN | P05412 | G6PC | P35575 | CSMD1 | Q96PZ7 |
| LDLR | P01130 | ZNF652 | Q9Y2D9 | SLC6A9 | P48067 |
| COG2 | Q14746 | HSD3B1 | P14060 | HFE | Q30201 |
| CALM1 | P0DP23 | ANPEP | P15144 | CABIN1 | Q9Y6J0 |
| AR | P10275 | PRAM1 | Q96QH2 | ACADSB | P45954 |
| MC3R | P41968 | LMNA | P02545 | SMURF1 | Q9HCE7 |
| SOD3 | P08294 | YEATS4 | O95619 | PPP1R12A | O14974 |
| LEPR | P48357 | IL13RA2 | Q14627 | NDUFC2 | O95298 |
| GSTM1 | P09488 | ALOX5 | P09917 | IL1A | P01583 |
| GCA | P28676 | TNFRSF4 | P43489 | PLA2G1B | P04054 |
| TNFRSF1B | P20333 | TXNL4B | Q9NX01 | ARAP1 | Q96P48 |
| KCNJ11 | Q14654 | KCNK2 | O95069 | BRIP1 | Q9BX63 |
| SST | P61278 | IL7 | P13232 | NR1H4 | Q96RI1 |
| PPARGC1A | Q9UBK2 | CXCR2 | P25025 | MPV17 | P39210 |
| RETN | Q9HD89 | IL1F8 | Q9NZH7 | IKBKB | O14920 |
| ALB | P02768 | KYNU | Q16719 | KCNE1 | P15382 |
| BDKRB2 | P30411 | SP2 | Q02086 | VAV2 | P52735 |
| STK39 | Q9UEW8 | SOAT2 | O75908 | UCP1 | P25874 |
| NR3C1 | P04150 | PRKAA2 | P54646 | SERPINE2 | P07093 |
| DBH | P09172 | CTLA4 | P16410 | ISYNA1 | Q9NPH2 |
| CRH | P06850 | CDKN2B | P42772 | MAP1LC3B | Q9GZQ8 |
| CYP2D6 | P10635 | IL4 | P05112 | CRHR2 | Q13324 |
| NPR3 | P17342 | GPR98 | Q8WXG9 | SLC12A2 | P55011 |
| CYP11B1 | P15538 | CCND1 | P24385 | KCNB1 | Q14721 |
| NPY | P01303 | RAMP1 | O60894 | CYP21A2 | P08686 |
| CYBB | P04839 | HNRNPAB | Q99729 | CXCL10 | P02778 |
| CHGA | P10645 | GPA33 | Q99795 | ERI1 | Q8IV48 |
| ANGPT2 | O15123 | DDIT3 | P35638 | PDGFRB | P09619 |
| SOD2 | P04179 | NBN | O60934 | KISS1 | Q15726 |
| GATA4 | P43694 | HCRT | O43612 | BBS4 | Q96RK4 |
| SCNN1A | P37088 | GCH1 | P30793 | ATF1 | P18846 |
| KDR | P35968 | DRD4 | P21917 | GRP | P07492 |
| SCNN1G | P51170 | CYP3A7 | P24462 | GLUL | P15104 |
| MYH9 | P35579 | PROM1 | O43490 | FABP3 | P05413 |
| HMGCR | P04035 | FABP6 | P51161 | SELE | P16581 |
| PNMT | P11086 | HLA-DQA1 | P01909 | PIM1 | P11309 |
| PKD1 | P98161 | FLT3LG | P49771 | EGF | P01133 |
| BMP6 | P22004 | LINGO1 | Q96FE5 | CARTPT | Q16568 |
| PDE5A | O76074 | AQP4 | P55087 | EGLN3 | Q9H6Z9 |
| CYP2J2 | P51589 | PDC | P20941 | DCP2 | Q8IU60 |
| GJA1 | P17302 | ABCA1 | O95477 | IKBKAP | O95163 |
| GSTT1 | P30711 | SCG2 | P13521 | KCNN3 | Q9UGI6 |
| PTGS1 | P23219 | E2F2 | Q14209 | TXN2 | Q99757 |
| CD4 | P01730 | FURIN | P09958 | TPH1 | P17752 |
| CASP3 | P42574 | AHSG | P02765 | UCP3 | P55916 |
| ACVRL1 | P37023 | PGD | P52209 | CTGF | P29279 |
| PLAT | P00750 | RAMP2 | O60895 | PAG1 | Q9NWQ8 |
| CLCNKB | P51801 | BCR | P11274 | CAMK2G | Q13555 |
| ALDH2 | P05091 | LPCAT3 | Q6P1A2 | IL2 | P60568 |
| HTR2A | P28223 | RAF1 | P04049 | PLD2 | O14939 |
| CCL5 | P13501 | SLC9A3R1 | O14745 | CDK5R1 | Q15078 |
| SLC2A4 | P14672 | CPE | P16870 | TNNI3 | P19429 |
| ADRBK1 | P25098 | PTGIR | P43119 | SLC17A5 | Q9NRA2 |
| IRS1 | P35568 | IL18 | Q14116 | TAP1 | Q03518 |
| SLC26A4 | O43511 | LMX1B | O60663 | PPP1R14A | Q96A00 |
| TGFB1 | P01137 | F3 | P13726 | IL13 | P35225 |
| MAPK14 | Q16539 | PPY | P01298 | NF1 | P21359 |
| UCP2 | P55851 | GABRA6 | Q16445 | BTN2A1 | Q7KYR7 |
| ADRA1B | P35368 | SLC9A3R2 | Q15599 | TFRC | P02786 |
| VIP | P01282 | FKBP1A | P62942 | TAC1 | P20366 |
| CTF1 | Q16619 | SLC2A9 | Q9NRM0 | PEPD | P12955 |
| MMP1 | P03956 | CAV2 | P51636 | SP1 | P08047 |
| GH1 | P01241 | RET | P07949 | SPANXC | Q9NY87 |
| APOA1 | P02647 | PDPK1 | O15530 | TRPC5 | Q9UL62 |
| BMP1 | P13497 | CXCR1 | P25024 | SLC16A1 | P53985 |
| SLC8A1 | P32418 | CYP1A1 | P04798 | PAPPA | Q13219 |
| NPR1 | P16066 | USP1 | O94782 | PRDX5 | P30044 |
| CYP4A11 | Q02928 | THBS1 | P07996 | NR1I2 | O75469 |
| CYP3A4 | P08684 | APOL1 | O14791 | ANXA1 | P04083 |
| SLC2A5 | P22732 | POU5F1 | Q01860 | GPR25 | O00155 |
| ABCB1 | P08183 | ABCG5 | Q9H222 | MYOC | Q99972 |
| NCF1 | P14598 | MEF2A | Q02078 | MAS1 | P04201 |
| FANCB | Q8NB91 | CXCR4 | P61073 | HPGD | P15428 |
| C2 | P06681 | EGR1 | P18146 | CASP9 | P55211 |
| HBA1 | P69905 | TGM2 | P21980 | CXCL12 | P48061 |
| CAPN10 | Q9HC96 | GNB2L1 | P63244 | ACAT1 | P24752 |
| CD34 | P28906 | GNG2 | P59768 | COL4A1 | P02462 |
| PPBP | P02775 | CKS1B | P61024 | PTEN | P60484 |
| KCNA5 | P22460 | PON2 | Q15165 | CD200 | P41217 |
| HTR1A | P08908 | CHEK2 | O96017 | PDYN | P01213 |
| NPHS1 | O60500 | CD8A | P01732 | MAT1A | Q00266 |
| ITGAM | P11215 | VHL | P40337 | PLEKHA7 | Q6IQ23 |
| ADCY10 | Q96PN6 | GDNF | P39905 | CTSB | P07858 |
| GNAS | P63092 | HSPB2 | Q16082 | HTR2B | P41595 |
| HLA-DRB1 | P01911 | UCN | P55089 | CD59 | P13987 |
| NOX1 | Q9Y5S8 | GATA5 | Q9BWX5 | ADAMTS13 | Q76LX8 |
| CDKN2A | P42771 | SLC2A2 | P11168 | NR4A2 | P43354 |
| SLC12A3 | P55017 | AVPR1A | P37288 | PARK2 | O60260 |
| CAST | P20810 | ADRBK2 | P35626 | NDFIP2 | Q9NV92 |
| ADRA1D | P25100 | SMTN | P53814 | GDF15 | Q99988 |
| CYP4F2 | P78329 | HDLBP | Q00341 | WT1 | P19544 |
| KLKB1 | P03952 | SPAG5 | Q96R06 | ACSM1 | Q08AH1 |
| INPPL1 | O15357 | ADH5 | P11766 | ILF3 | Q12906 |
| F5 | P12259 | BNIP1 | Q12981 | ACHE | P22303 |
| TXK | P42681 | NEUROD1 | Q13562 | MTMR9 | Q96QG7 |
| PLA2G7 | Q13093 | CD19 | P15391 | CLOCK | O15516 |
| GC | P02774 | GNA12 | Q03113 | VNN1 | O95497 |
| KCNQ1 | P51787 | NPY2R | P49146 | SLC4A1 | P02730 |
| GRK5 | P34947 | HDAC2 | Q92769 | SDK1 | Q7Z5N4 |
| STAT3 | P40763 | IFNA1 | P01562 | PTHLH | P12272 |
| NOX4 | Q9NPH5 | TGFBR2 | P37173 | MEOX2 | P50222 |
| HSPA1A | P0DMV8 | FAAH | O00519 | PIK3R1 | P27986 |
| SRY | Q05066 | SELL | P14151 | PPP3R1 | P63098 |
| PLCD1 | P51178 | NT5E | P21589 | TPH2 | Q8IWU9 |
| HSP90AA1 | P07900 | CA2 | P00918 | ALPP | P05187 |
| UMOD | P07911 | CYR61 | O00622 | ALOX12 | P18054 |
| PENK | P01210 | PSMB9 | P28065 | CXCL5 | P42830 |
| KITLG | P21583 | NPPC | P23582 | LNPEP | Q9UIQ6 |
| GPX1 | P07203 | APOBEC3F | Q8IUX4 | CREBBP | Q92793 |
| SLC22A2 | O15244 | EGLN1 | Q9GZT9 | ACTN2 | P35609 |
| SLC9A3 | P48764 | MAP2K1 | Q02750 | ACP1 | P24666 |
| DRD1 | P21728 | PLG | P00747 | GNA14 | O95837 |
| GCGR | P47871 | ALOX5AP | P20292 | KCNJ10 | P78508 |
| TIMP1 | P01033 | S100A8 | P05109 | FABP2 | P12104 |
| TIMP2 | P16035 | RETNLB | Q9BQ08 | HLA-B | P01889 |
| PDGFB | P01127 | MFN2 | O95140 | IL13RA1 | P78552 |
| RGS5 | O15539 | MARK2 | Q7KZI7 | CYP1A2 | P05177 |
| ECE1 | P42892 | ITGB1BP2 | Q9UKP3 | NOTCH4 | Q99466 |
| FBN1 | P35555 | TXN | P10599 | SCN2A | Q99250 |
| B2M | P61769 | AMY1A | P04745 | PARP1 | P09874 |
| GAL | P22466 | MC4R | P32245 | DNAJB11 | Q9UBS4 |
| SLC6A2 | P23975 | APOC3 | P02656 | TRPM4 | Q8TD43 |
| IL10 | P22301 | PAK1 | Q13153 | SCN7A | Q01118 |
| PON1 | P27169 | XYLT1 | Q86Y38 | CLCN3 | P51790 |
| TRH | P20396 | VDR | P11473 | T | O15178 |
| EDN2 | P20800 | CYP7A1 | P22680 | CETP | P11597 |
| ATP2B1 | P20020 | GGT1 | P19440 | FMO3 | P31513 |
| ADD2 | P35612 | CD2 | P06729 | NCAM1 | P13591 |
| ITGA2 | P17301 | SF1 | Q15637 | RFC2 | P35250 |
| ADORA2A | P29274 | USP2 | O75604 | SLC24A4 | Q8NFF2 |
| PROC | P04070 | MMP3 | P08254 | FUT1 | P19526 |
| OXT | P01178 | GTPBP4 | Q9BZE4 | EPHX1 | P07099 |
| S100A1 | P23297 | SUCLG2 | Q96I99 | FN1 | P02751 |
| C4A | P0C0L4 | TBK1 | Q9UHD2 | CCNA2 | P20248 |
| NFATC3 | Q12968 | DSP | P15924 | DCN | P07585 |
| CYP17A1 | P05093 | PECAM1 | P16284 | VIM | P08670 |
| MYOCD | Q8IZQ8 | TF | P02787 | NTRK1 | P04629 |
| ATP5G1 | P05496 | BDKRB1 | P46663 | SLC4A8 | Q2Y0W8 |
| DRD2 | P14416 | ATXN3 | P54252 | CDH5 | P33151 |
| FGF5 | P12034 | GRK6 | P43250 | PCSK6 | P29122 |
| AHSP | Q9NZD4 | SHC1 | P29353 | NFKBIB | Q15653 |
| RNLS | Q5VYX0 | CRY1 | Q16526 | CCL23 | P55773 |
| SERPINA1 | P01009 | S1PR1 | P21453 | GSK3B | P49841 |
| SPP1 | P10451 | BCL2L1 | Q07817 | PRRX1 | P54821 |
| TRPV1 | Q8NER1 | ATP6V1B1 | P15313 | MSR1 | P21757 |
| PTGIS | Q16647 | ARHGEF1 | Q92888 | RABGAP1L | Q5R372 |
| EMILIN1 | Q9Y6C2 | PRDX3 | P30048 | GJC1 | P36383 |
| MAPK1 | P28482 | IL15 | P40933 | ANKRD1 | Q15327 |
| CORIN | Q9Y5Q5 | RGS20 | O76081 | SERPINA6 | P08185 |
| SMAD3 | P84022 | GLI1 | P08151 | SLC22A6 | Q4U2R8 |
| VEGFB | P49765 | RAMP3 | O60896 | IGFBP2 | P18065 |
| CYP19A1 | P11511 | COMT | P21964 | MUC5AC | P98088 |
| ATP6V0A1 | Q93050 | EPOR | P19235 | TBRG1 | Q3YBR2 |
| GORASP1 | Q9BQQ3 | MMP14 | P50281 | YY1 | P25490 |
| BMP4 | P12644 | LGALS2 | P05162 | ENPP1 | P22413 |
| CX3CL1 | P78423 | RYR2 | Q92736 | IER3 | P46695 |

**Table S2: Docking results of 10 active ingredients and NOS3**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ingredients** | **Total\_Score** | **Crash** | **Polar** |
| Histidine | 6.3348 | -0.1440 | 8.3102 |
| Cedar acid | 6.2446 | -0.4673 | 4.5611 |
| Linalool | 6.1754 | -0.9512 | 1.1426 |
| p-Hydroxybenzoic acid | 6.0571 | -0.4822 | 3.8879 |
| Shikimic acid | 4.6199 | -0.6389 | 3.5727 |
| Salicylic acid | 4.5084 | -0.2145 | 5.6569 |
| Nicotinic acid | 4.4987 | -0.2532 | 4.4976 |
| pulegone | 4.4954 | -0.5670 | 0.0000 |
| 5-Hydroxymethylfurfural | 4.2945 | -0.3198 | 2.4507 |
| L-Bornyl acetate | 4.2346 | -0.3992 | 1.7464 |

Total score indicated the total dock score.

Crash-score reveals the ability of a compound to penetrate a protein active site.

Polar score: the polar interaction between the protein and ligand.

**Table S3: Docking results of 10 active ingredients and SRC**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ingredients** | **Total\_Score** | **Crash** | **Polar** |
| Shikimic acid | 8.2297 | -0.7020 | 7.4211 |
| Salicylic acid | 8.2043 | -0.5401 | 6.9977 |
| Histidine | 7.7734 | -0.4526 | 7.6186 |
| Cedar acid | 6.8966 | -0.9119 | 4.4851 |
| Nicotinic acid | 6,7675 | -0.0813 | 6.1328 |
| p-Hydroxybenzoic acid | 6.1640 | -1.0627 | 6.7862 |
| Linalool | 5.1493 | -0.7765 | 1.3457 |
| pulegone | 4.5547 | -1.4575 | 0.5330 |
| 5-Hydroxymethylfurfural | 4.3716 | -0.3800 | 4.4570 |
| L-Bornyl acetate | 2.9957 | -0.4851 | 1.2889 |

Total score indicated the total dock score.

Crash-score reveals the ability of a compound to penetrate a protein active site.

Polar score: the polar interaction between the protein and ligand.

**Table S4: Docking results of 10 active ingredients and PI3K**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ingredients** | **Total\_Score** | **Crash** | **Polar** |
| Cedar acid | 7.2253 | -1.0899 | 5.3711 |
| p-Hydroxybenzoic acid | 6.5506 | -0.6399 | 4.3699 |
| Linalool | 6.1761 | -1.3432 | 1.9788 |
| Salicylic acid | 5.6957 | -0.1617 | 4.2707 |
| Histidine | 5.3442 | -0.6108 | 4.1117 |
| Nicotinic acid | 5.0384 | -0.1363 | 3.1245 |
| Shikimic acid | 4.7101 | -1.6518 | 4.1782 |
| 5-Hydroxymethylfurfural | 4.4065 | -0.3841 | 2.2528 |
| pulegone | 3.2292 | -3.0044 | 0.8943 |
| L-Bornyl acetate | 2.2141 | -0.2124 | 1.2882 |

Total score indicated the total dock score.

Crash-score reveals the ability of a compound to penetrate a protein active site.

Polar score: the polar interaction between the protein and ligand.

**Table S5: Docking results of 10 active ingredients and AKT**

|  |  |  |  |
| --- | --- | --- | --- |
| **Ingredients** | **Total\_Score** | **Crash** | **Polar** |
| Cedar acid | 8.2980 | -0.6007 | 8.1101 |
| Shikimic acid | 7.2071 | -0.8317 | 8.7737 |
| Nicotinic acid | 7.1323 | -0.2939 | 7.2074 |
| Salicylic acid | 5.4530 | -0.2868 | 6.4013 |
| Histidine | 4.7987 | -0.1960 | 6.0716 |
| Linalool | 4.5285 | -0.8561 | 1.7543 |
| p-Hydroxybenzoic acid | 4.3329 | -0.1517 | 5.5838 |
| 5-Hydroxymethylfurfural | 3.7862 | -0.2860 | 4.2612 |
| L-Bornyl acetate | 3.3792 | -0.1780 | 2.1381 |
| pulegone | 3.1018 | -0.4775 | 2.3304 |

Total score indicated the total dock score.

Crash-score reveals the ability of a compound to penetrate a protein active site.

Polar score: the polar interaction between the protein and ligand.