| Tier 1 Gene | GeneRange (hg19) | GeneRange +500kb(hg19) | GeneRange (hg18) | StartSNP (GeneRange +500kb) | EndSNP (GeneRange +500kb) |
|---|---|---|---|---|---|
| ACAT1 | chr11:107992257-108018891 | chr11:107492257-108518891 | chr11:107497467-107523485 | rs7925970 | kgp3957860 |
| ACCN1 | chr17:31340105-32483825 | chr17:30840105-32983825 | chr17:28364218-29507938 | rs2519865 | kgp10854156 |
| ACTR2 | chr2:65454828-65498390 | chr2:64954828-65998390 | chr2:65308405-65351891 | rs1477043 | kgp4266233 |
| ADCY1 | chr7:45614124-45762714 | chr7:45114124-46262714 | chr7:45580649-45729239 | rs2289367 | kgp13398740 |
| ADRBK1 | chr11:67033904-67054029 | chr11:66533904-67554029 | chr11:66790480-66810605 | kgp7862175 | kgp2126040 |
| ALDOA | chr16:30064410-30081741 | chr16:29564410-30581741 | chr16:29971972-29989236 | kgp733881 | kgp6386467,rs33997546 |
| APP | chr21:27252860-27543446 | chr21:26752860-28043446 | chr21:26174731-26465003 | rs7281883 | kgp2004872 |
| ARL15 | chr5:53180613-53606403 | chr5:52680613-54106403 | chr5:53216370-53642160 | kgp10474479 | rs10058571 |
| ATXN7L3 | chr17:42269172-42275529 | chr17:41769172-42775529 | chr17:39624698-39631055 | rs11650560 | rs6503398 |
| BDKRB2 | chr14:96671134-96710666 | chr14:96171134-97210666 | chr14:95740887-95780419 | kgp19731302 | kgp1905230 |
| CA8 | chr8:61101422-61193954 | chr8:60601422-61693954 | chr8:61263976-61356508 | kgp9568230 | kgp1623935 |
| CACNA1B | chr9:140772240-141019076 | chr9:140272240-141519076 | chr9:139892061-140136452 | kgp18327422 | kgp12374930 |
| CACYBP | chr1:174968570-174981163 | chr1:174468570-175481163 | chr1:173235193-173247786 | rs1013769 | kgp15391194 |
| CALM1 | chr14:90863326-90874619 | chr14:90363326-91374619 | chr14:89933125-89944363 | kgp828819 | kgp22766175 |
| CHRM3 | chr1:239549864-240049896 | chr1:239049864-240549896 | chr1:237616487-238116519 | kgp1999037 | rs1537850 |
| CIC | chr19:42788816-42799949 | chr19:42288816-43299949 | chr19:47480656-47491789 | kgp21495548 | kgp22794755 |
| CNP | chr17:40118758-40129754 | chr17:39618758-40629754 | chr17:37372284-37383280 | kgp4988562 | kgp1573374 |

*Fig. 1-1*

| Tier 1 Gene | GeneRange (hg19) | GeneRange +500kb(hg19) | GeneRange (hg18) | StartSNP (GeneRange +500kb) | EndSNP (GeneRange +500kb) |
|---|---|---|---|---|---|
| CNTN4 | chr3:2140549-3099645 | chr3:1640549-3599645 | chr3:2117246-3074645 | kgp7465125 | kgp11488181,rs9811783 |
| CRHR1 | chr17:954314-1170453 | chr17:454314-1670453 | chr17:41217448-41268973 | kgp12243700 | kgp2967880 |
| CTNNA2 | chr2:79412356-80875988 | chr2:78912356-81375988 | chr2:79265864-80729416 | kgp2692843 | kgp6161954 |
| DISC1 | chr1:231664398-232177019 | chr1:231164398-232677019 | chr1:229829183-230243641 | kgp15830047 | kgp10247084 |
| DPP6 | chr7:153584418-154685995 | chr7:153084418-155185995 | chr7:153215351-154316928 | rs1822707 | rs7781545 |
| DYNLL1 | chr12:120907659-120936298 | chr12:120407659-121436298 | chr12:119392042-119420681 | rs2393569 | rs1169303 |
| FPR1 | chr19:52249022-52255150 | chr19:51749022-52755150 | chr19:56940837-56946962 | rs11084062 | kgp21351572 |
| GAPDH | chr12:6643656-6647536 | chr12:6143656-7147536 | chr12:6513917-6517797 | kgp12277967 | kgp3951989 |
| GNA15 | chr19:3136190-3163766 | chr19:2636190-3663766 | chr19:3087190-3114766 | kgp9441497 | rs8109485 |
| GNAI2 | chr3:50263723-50296786 | chr3:49763723-50796786 | chr3:50238727-50271790 | rs1049256 | kgp1163947 |
| GNAO1 | chr16:562252500-56391356 | chr16:557252500-56891356 | chr16:547827551-54948857 | rs36013 | kgp16402238 |
| GNAQ | chr9:80335190-80646219 | chr9:79835190-81146219 | chr9:79525010-79836012 | rs3802497 | kgp478959 |
| GRIK1 | chr21:30909253-31312282 | chr21:30409253-31812282 | chr21:29831124-30234153 | kgp6759057 | kgp13183414 |
| GRIK3 | chr1:37261127-37499844 | chr1:36761127-37999844 | chr1:37033714-37272431 | kgp15160339 | kgp6185747 |
| GRM1 | chr6:146348781-146758731 | chr6:145848781-147258731 | chr6:146390474-146800424 | kgp17333275 | rs17076442 |
| GRM3 | chr7:86273229-86494192 | chr7:85773229-86994192 | chr7:86111165-86332128 | rs7809507 | rs6950721 |
| GRM5 | chr11:88237743-88796816 | chr11:87737743-89296816 | chr11:87881005-88436464 | kgp11022062 | rs7123374 |
| GRM7 | chr3:6902801-7783218 | chr3:6402801-8283218 | chr3:6877926-7758217 | rs17288121 | kgp10770379 |
| GRM8 | chr7:126078651-126893147 | chr7:125578651-127393147 | chr7:125865887-126680383 | rs11767202 | kgp13721602 |
| GSN | chr9:123963760-124095120 | chr9:123463760-124595120 | chr9:123003581-123134941 | rs10984984 | kgp10246924 |
| HOMER1 | chr5:78669785-78809700 | chr5:78169785-79309700 | chr5:78705541-78845456 | kgp22480767 | rs2438612 |

*Fig. 1-2*

| Tier 1 Gene | GeneRange (hg19) | GeneRange +500kb(hg19) | GeneRange (hg18) | StartSNP (GeneRange +500kb) | EndSNP (GeneRange +500kb) |
|---|---|---|---|---|---|
| HTR2A | chr13:47407512-47471169 | chr13:46907512-47971169 | chr13:46305513-46368995 | rs4942513 | rs2185411 |
| LARP7 | chr4:113558119-113578742 | chr4:113058119-114078742 | chr4:113777568-113798191 | kgp20778198 | rs10516593 |
| MAPK1 | chr22:22113946-22221970 | chr22:21613946-22721970 | chr22:20443946-20551970 | rs2019503 | rs5758017 |
| MTHFD1 | chr14:64854758-64926725 | chr14:64354758-65426725 | chr14:63924845-63996474 | kgp8236539 | kgp19721535 |
| MX1 | chr21:42792519-42831141 | chr21:42292519-43331141 | chr21:41714311-41753008 | rs7280789 | kgp9356591 |
| NARG1 | chr4:140222675-140311935 | chr4:139722675-140811935 | chr4:140442125-140531385 | kgp951257 | kgp22761518 |
| NEGR1 | chr1:71868624-72748405 | chr1:71368624-73248405 | chr1:71641212-72520993 | kgp15840593 | kgp15187386 |
| NLN | chr5:65018022-65125111 | chr5:64518022-65625111 | chr5:65053840-65155145 | kgp8540617 | kgp6780911 |
| NMI | chr2:152126981-152146430 | chr2:151626981-152646430 | chr2:151835227-151854676 | rs9789673 | rs4303715 |
| PCBP3 | chr21:47063682-47355618 | chr21:46563682-47855618 | chr21:45888110-46180046 | rs13047590 | rs17371795 |
| PDE1C | chr7:31792631-32338383 | chr7:31292631-32838383 | chr7:31759156-32305466 | rs960434 | rs10264489 |
| PPP2R1A | chr19:52693054-52729678 | chr19:52193054-53229678 | chr19:57385045-57421483 | kgp3827878 | kgp21490256 |
| PRPSAP1 | chr17:74306867-74350279 | chr17:73806867-74850279 | chr17:71818609-71861526 | kgp13936725 | kgp5222426 |
| PSMD11 | chr17:30771501-30808042 | chr17:30271501-31308042 | chr17:27795614-27832155 | kgp12010810 | rs8065019 |
| PSMD13 | chr11:236807-252984 | chr11:1-752984 | chr11:226807-242984 | kgp9815230 | kgp7252222 |
| PXN | chr12:120648241-120703574 | chr12:120148241-121203574 | chr12:119132632-119187946 | kgp9790305 | kgp10851563 |
| QRICH2 | chr17:74270129-74303761 | chr17:73770129-74803761 | chr17:71781724-71815356 | kgp9494493 | kgp13978344 |
| RANBP1 | chr22:20105023-20114706 | chr22:19605023-20614706 | chr22:18485023-18494704 | kgp15081773 | kgp240898 |
| RAP2A | chr13:98086474-98120252 | chr13:97586474-98620252 | chr13:96884476-96918245 | kgp1964422 | kgp12456635 |
| RCC1 | chr1:28832454-28865708 | chr1:28332454-29365708 | chr1:28717331-28738194 | kgp4972332 | kgp10549261 |
| RGS12 | chr4:3315873-3441640 | chr4:2815873-3941640 | chr4:3285671-3411438 | kgp6603457 | kgp12100218 |

*Fig. 1-3*

| Tier 1 Gene | GeneRange (hg19) | GeneRange +500kb(hg19) | GeneRange (hg18) | StartSNP (GeneRange +500kb) | EndSNP (GeneRange +500kb) |
|---|---|---|---|---|---|
| RIF1 | chr2:152266396-152333860 | chr2:151766396-152833860 | chr2:151974645-152040665 | rs13010870 | kgp14366130 |
| RUVBL2 | chr19:49497155-49519182 | chr19:48997155-50019182 | chr19:54188967-54210994 | kgp2866116 | rs6509434 |
| RYR1 | chr19:38924339-39078204 | chr19:38424339-39578204 | chr19:43616179-43770044 | kgp21463042 | kgp10827233 |
| RYR2 | chr1:237205701-237997288 | chr1:236705701-238497288 | chr1:235272324-236063911 | kgp15265824 | kgp855991 |
| SDC3 | chr1:31342312-31381480 | chr1:30842312-31881480 | chr1:31114899-31154067 | kgp3545961 | rs1039630 |
| SELE | chr1:169691780-169703220 | chr1:169191780-170203220 | chr1:167958404-167969844 | kgp11738441 | kgp5736867 |
| SERPINB9 | chr6:2887503-2903545 | chr6:2387503-3403545 | chr6:2832502-2848506 | rs4959652 | kgp9198993 |
| SETD4 | chr21:37415981-37451687 | chr21:36915981-37951687 | chr21:36337851-36373557 | rs8131794 | kgp10193814 |
| SGTB | chr5:64961754-65017941 | chr5:64461754-65517941 | chr5:64997510-65053697 | rs2367239 | rs253229 |
| SHANK1 | chr19:51165083-51220195 | chr19:50665083-51720195 | chr19:55856895-55912007 | kgp8880890 | kgp5265049 |
| SLC7A10 | chr19:33699569-33716756 | chr19:33199569-34216756 | chr19:38391410-38408548 | kgp3880561 | kgp21532613 |
| SORD | chr15:45315301-45367287 | chr15:44815301-45867287 | chr15:43102632-43154331 | rs3752691 | rs17627219 |
| STRAP | chr12:16035287-16056410 | chr12:15535287-16556410 | chr12:15926554-15947677 | kgp9763258 | kgp18858589 |
| TK1 | chr17:76170159-76183285 | chr17:75670159-76683285 | chr17:73681754-73694880 | kgp13960604 | kgp4569268 |
| TNIK | chr3:170780291-171178197 | chr3:170280291-171678197 | chr3:172264363-172660546 | kgp17660929 | kgp3100328 |
| USP24 | chr1:55532031-55681039 | chr1:55032031-56181039 | chr1:55304619-55453350 | kgp3052862 | kgp5594096 |
| VHL | chr3:10183318-10195354 | chr3:9683318-10695354 | chr3:10158318-10168746 | kgp6652387 | rs9942062 |

*Fig. 1-4*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| ACAT2 | chr6:160182988-160200087 | chr6:159682988-160700087 | chr12:51783540-51804590 | kgp17016252 | rs3119312 |
| ACCN2 | chr12:50451486-50477394 | chr12:49951486-50977394 | chr12:48737753-48763661 | kgp6083801 | kgp2326833 |
| ACP1 | chr2:264868-278282 | chr2:1-778282 | chr2:254871-268282 | kgp14878812 | kgp6217001 |
| ACTB | chr7:5566778-5570232 | chr7:5066778-6070232 | chr7:5533304-5536758 | kgp10503129 | rs17136342 |
| ADA | chr20:43248162-43280376 | chr20:42748162-43780376 | chr20:42681576-42713790 | kgp505723 | rs2207199 |
| ADD1 | chr4:2845583-2931802 | chr4:2345583-3431802 | chr4:2815381-2901587 | kgp5601859 | kgp5383382 |
| ADD2 | chr2:70834749-70995375 | chr2:70334749-71495375 | chr2:70688257-70848837 | kgp14188216 | kgp4077094 |
| ADORA1 | chr1:203096835-203136533 | chr1:202596835-203636533 | chr1:201363458-201403156 | rs16850143 | rs12568960 |
| ADRA1B | chr5:159343739-159400017 | chr5:158843739-159900017 | chr5:159276317-159332595 | rs17056747 | kgp2774549 |
| ADRA2A | chr10:112836789-112840662 | chr10:112336789-113340662 | chr10:112826910-112830560 | kgp3219023 | rs10787379 |
| ADRA2C | chr4:3768295-3770253 | chr4:3268295-4270253 | chr4:3737872-3740016 | kgp21189210 | kgp21320659 |
| ADRB2 | chr5:148206155-148208197 | chr5:147706155-148708197 | chr5:148186348-148188381 | kgp6738042 | rs352336 |
| ANXA2 | chr15:60639349-60690185 | chr15:60139349-61190185 | chr15:58426641-58477477 | kgp19904124 | kgp1248561 |
| APTX | chr9:32972603-33001639 | chr9:32472603-33501639 | chr9:32962607-33015110 | kgp8123814 | kgp22778750 |
| AQP1 | chr7:30893009-30965131 | chr7:30393009-31465131 | chr7:30917992-30931656 | kgp13347683 | rs11983505 |
| ARHGAP24 | chr4:86396283-86923823 | chr4:85896283-87423823 | chr4:86615307-87142847 | kgp12192788 | kgp20991115 |
| ARRB1 | chr11:74971165-75062875 | chr11:74471165-75562875 | chr11:74654129-74740521 | kgp13077708 | kgp12867051 |
| ARRB2 | chr17:4613788-4624795 | chr17:4113788-5124795 | chr17:4560537-4571544 | kgp10630047 | rs2304905 |

*Fig. 2-1*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| BDKRB1 | chr14:96722546-96731100 | chr14:96222546-97231100 | chr14:95792311-95800853 | rs10146784 | kgp10194056 |
| BTBD2 | chr19:1985446-2015702 | chr19:1485446-2515702 | chr19:1936446-1966702 | kgp9698924 | rs12985186 |
| BTG2 | chr1:203274663-203278729 | chr1:202774663-203778729 | chr1:201541286-201545352 | kgp11073362 | kgp22834576 |
| C17orf44 | chr17:8123966-8127361 | chr17:7623966-8627361 | chr17:8064691-8068086 | kgp14083005 | kgp8066962 |
| C1orf116 | chr1:207191865-207206101 | chr1:206691865-207706101 | chr1:205258488-205272724 | kgp15208593 | rs12094477 |
| C7orf25 | chr7:42948871-42971805 | chr7:42448871-43471805 | chr7:42915396-42938330 | kgp13766903 | kgp8523923 |
| CALB2 | chr16:71392615-71424342 | chr16:70892615-71924342 | chr16:69950126-69981843 | rs1774414 | kgp16319275 |
| CALM2 | chr2:47387220-47403740 | chr2:46887220-47903740 | chr2:47146583-47257154 | kgp12094177 | kgp4237241 |
| CALM3 | chr14:90863326-90874619 | chr14:90363326-91374619 | chr19:51796351-51805879 | kgp828819 | kgp22766175 |
| CAMK1 | chr3:9799028-9811668 | chr3:9299028-10311668 | chr3:9774030-9786661 | kgp4340327 | kgp1318661 |
| CAMK2B | chr7:44256748-44365230 | chr7:43756748-44865230 | chr7:44223273-44331749 | rs10245456 | kgp10338229 |
| CAMK4 | chr5:110559946-110820748 | chr5:110059946-111320748 | chr5:110587980-110848647 | kgp11981357 | kgp22673631 |
| CCNB1 | chr5:68462836-68474070 | chr5:67962836-68974070 | chr5:68498668-68509826 | kgp5100830 | rs28529133 |
| CDC42 | chr1:22379119-22419436 | chr1:21879119-22919436 | chr1:22251706-22292023 | kgp15282552 | rs209696 |
| CENTG1 | chr12:58118076-58135944 | chr12:57618076-58635944 | chr12:56404343-56422211 | kgp22774357 | rs12825103 |
| CHGB | chr20:5891973-5906005 | chr20:5391973-6406005 | chr20:5840167-5854003 | kgp19217529 | kgp5406173 |
| CHP | chr15:41523436-41574083 | chr15:41023436-42074083 | chr15:39310728-39361375 | kgp9389002 | kgp10815429 |
| CHRM2 | chr7:136553398-136701771 | chr7:136053398-137201771 | chr7:136203938-136352311 | rs2882248 | kgp11051162 |
| CMPK | chr2:6988440-7005950 | chr2:6488440-7505950 | chr2:6905891-6923401 | rs16865056 | kgp6717309 |
| CNR1 | chr6:88849584-88875767 | chr6:88349584-89375767 | chr6:88910155-88932281 | kgp11366911 | kgp5424340 |

*Fig. 2-2*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| COPB2 | chr3:139076432-139108522 | chr3:138576432-139608522 | chr3:140559122-140591212 | kgp17652827 | rs2554152 |
| CYCS | chr7:25158269-25164980 | chr7:24658269-25664980 | chr7:25124799-25131480 | kgp22782658 | kgp9259047 |
| DCN | chr12:91539034-91576806 | chr12:91039034-92076806 | chr12:90063165-90100937 | rs11105720 | rs1602946 |
| DHCR7 | chr11:71145456-71159477 | chr11:70645456-71659477 | chr11:70823104-70837125 | rs2016495 | kgp4157665 |
| DLST | chr14:75348593-75370450 | chr14:74848593-75870450 | chr14:74418371-74440198 | kgp6099186 | rs11621369 |
| DRD2 | chr11:113280316-113346001 | chr11:112780316-113846001 | chr11:111785526-112851211 | kgp12732525 | rs1062613 |
| DRD3 | chr3:113847556-113918254 | chr3:113347556-114418254 | chr3:115330246-115400944 | kgp18078164 | kgp7361746 |
| DSTN | chr20:17550598-17588652 | chr20:17050598-18088652 | chr20:17498598-17536652 | kgp19350858 | rs1581925 |
| ECHS1 | chr10:135175986-135186908 | chr10:134675986-135686908 | chr10:135025979-135036898 | kgp21664075 | kgp22837031 |
| EGFR | chr7:55086724-55275031 | chr7:54586724-55775031 | chr7:55054218-55242525 | kgp12053718 | kgp3314724 |
| EIF3S3 | chr8:117657055-117768062 | chr8:117157055-118268062 | chr8:117726236-117837243 | kgp10576753 | rs1793723 |
| ERBB2 | chr17:37844392-37884915 | chr17:37344392-38384915 | chr17:35097918-35138441 | kgp11528115 | kgp670921 |
| F2R | chr5:76011867-76031595 | chr5:75511867-76531595 | chr5:76047623-76067351 | kgp22518836 | kgp1549629 |
| F2RL2 | chr5:75911306-75919240 | chr5:75411306-76419240 | chr5:75947062-75954996 | kgp10188048 | kgp8041699 |
| F2RL3 | chr19:16999825-17002830 | chr19:16499825-17502830 | chr19:16860825-16863830 | kgp9756004 | kgp12567834 |
| F3 | chr1:94994731-95007413 | chr1:94494731-95507413 | chr1:94767460-94779903 | kgp22732356 | kgp5203715 |
| FKBP3 | chr14:45584801-45604009 | chr14:45084801-46104009 | chr14:44654858-44674272 | kgp8973198 | kgp19724486 |
| FSCN1 | chr7:5632435-5646287 | chr7:5132435-6146287 | chr7:5598979-5612812 | kgp11535801 | kgp22733484 |
| FURIN | chr15:91411884-91426687 | chr15:90911884-91926687 | chr15:89212888-89227691 | kgp19755110 | kgp7570879 |
| FYN | chr6:111981534-112194655 | chr6:111481534-112694655 | chr6:112089177-112301320 | kgp9553033 | kgp10843976 |

*Fig. 2-3*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| GLP1R | chr6:39016556-39055520 | chr6:38516556-39555520 | chr6:39124534-39163498 | kgp11427391 | kgp8067157 |
| GLP2R | chr17:9729380-9793022 | chr17:9229380-10293022 | chr17:9670105-9733747 | kgp13857921 | kgp14095302 |
| GNAI1 | chr7:79764139-79848725 | chr7:79264139-80348725 | chr7:79602075-79686661 | kgp3340161 | kgp96572 |
| GNAI3 | chr1:110091185-110138452 | chr1:109591185-110638452 | chr1:109892708-109939975 | rs28503409 | kgp2138201 |
| GNB2L1 | chr5:180663927-180670906 | chr5:180163927-181170906 | chr5:180596533-180603512 | kgp9825803 | kgp22785368 |
| GOT1 | chr10:101156626-101190530 | chr10:100656626-101690530 | chr10:101146617-101180336 | kgp21656902 | kgp21815940 |
| GP1BA | chr17:4835591-4838325 | chr17:4335591-5338325 | chr17:4776371-4779067 | kgp13949132 | kgp11186643 |
| GPR26 | chr10:125425870-125456913 | chr10:124925870-125956913 | chr10:125415860-125444113 | kgp7582662 | kgp21578542 |
| GRB2 | chr17:73314156-73401790 | chr17:72814156-73901790 | chr17:70825751-70913385 | kgp13841089 | kgp14035219 |
| GRB7 | chr17:37894161-37903538 | chr17:37394161-38403538 | chr17:35147712-35157064 | kgp14102913 | kgp13833584 |
| GRIA1 | chr5:152870083-153193429 | chr5:152370083-153693429 | chr5:152850276-153173622 | rs1438937 | rs10057369 |
| GRM2 | chr3:51741080-51752625 | chr3:51241080-52252625 | chr3:51716127-51727665 | rs4367100 | rs13060808 |
| GRM4 | chr6:33989627-34113869 | chr6:33489627-34613869 | chr6:34097605-34231377 | kgp17076142 | rs6909637 |
| GRM6 | chr5:178405329-178422124 | chr5:177905329-178922124 | chr5:178337935-178354730 | rs603852 | rs11249632 |
| HBXIP | chr1:110943876-110950546 | chr1:110443876-111450546 | chr1:110745399-110752069 | kgp8686658 | rs1936942 |
| HD | chr6:125596496-125623282 | chr6:125096496-126123282 | chr6:125638195-125664981 | rs11154263 | rs11967627 |
| HNRPA3 | chr2:178077422-178088685 | chr2:177577422-178588685 | chr2:177785668-177796931 | kgp14203861 | rs1344924 |
| HOMER3 | chr19:19017768-19045219 | chr19:18517768-19545219 | chr19:18901011-18912983 | rs13344313 | rs4808199 |
| HRPT2 | chr1:193091088-193223942 | chr1:192591088-193723942 | chr1:191357711-191490565 | kgp2473538 | kgp12065536 |
| HSP90AB1 | chr6:44214848-44221614 | chr6:43714848-44721614 | chr6:44322826-44329592 | kgp5836209 | kgp8706663 |

*Fig. 2-4*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| IL8RB | chr2:218989997-219001975 | chr2:218489997-219501975 | chr2:218698242-218710220 | kgp22730583 | rs1055816 |
| IMPDH2 | chr3:49061761-49066875 | chr3:48561761-49566875 | chr3:49036765-49041879 | kgp22731595 | kgp5626213 |
| IQGAP2 | chr5:75699148-76003957 | chr5:75199148-76503957 | chr5:75734904-76039713 | kgp22490664 | rs11739698 |
| ITGB1 | chr10:33189245-33247293 | chr10:32689245-33747293 | chr10:33229251-33287299 | kgp12034252 | rs11009395 |
| ITGB7 | chr12:53585106-53601000 | chr12:53085106-54101000 | chr12:51871373-51887267 | kgp19011413 | kgp3313746 |
| ITPR1 | chr3:4535031-4889524 | chr3:4035031-5389524 | chr3:4510033-4864286 | kgp17889944 | kgp1749057 |
| KIAA0090 | chr1:19544583-19578046 | chr1:19044583-20078046 | chr1:19417170-19450633 | rs624761 | rs1009631 |
| KIAA1683 | chr19:18367905-18385319 | chr19:17867905-18885319 | chr19:18228907-18246235 | kgp6435620 | rs10412356 |
| LAMA4 | chr6:112429133-112575828 | chr6:111929133-113075828 | chr6:112535826-112682521 | kgp16962466 | kgp17024247 |
| LRP2BP | chr4:186285031-186300172 | chr4:185785031-186800172 | chr4:186522026-186537166 | kgp7238414 | rs9994907 |
| LRRC59 | chr17:48458593-48474914 | chr17:47958593-48974914 | chr17:45813597-45829831 | kgp1609816 | kgp13856216 |
| LTA | chr6:2825414-2827639 | chr6:2825414-2827639 | chr6:2787675-2789683 | kgp11675228 | rs6912537 |
| LYAR | chr4:4269428-4291896 | chr4:3769428-4791896 | chr4:4320337-4342744 | kgp22780996 | kgp7317116 |
| LYN | chr8:56792385-56925006 | chr8:56292385-57425006 | chr8:56954939-57086494 | kgp8836202 | rs2670027 |
| MAP4 | chr3:47892179-48130769 | chr3:47392179-48630769 | chr3:47867188-48105715 | kgp17741397 | rs35623035 |
| MAPT | chr17:43971747-44105699 | chr17:43471747-44605699 | chr17:41327543-41461546 | kgp22730329 | kgp13941400 |
| MARK4 | chr19:45754515-45808541 | chr19:45254515-46308541 | chr19:50446681-50500381 | kgp10230030 | kgp21456098 |
| MC4R | chr18:58038563-58040001 | chr18:57538563-58540001 | chr18:56189543-56190981 | kgp7049183 | kgp1258536 |
| MGC11082 | chr18:3602998-3604385 | chr18:3102998-4104385 | chr18:3592998-3594385 | kgp15965827 | kgp12318627 |
| MRPL14 | chr6:44081372-44095191 | chr6:43581372-44595191 | chr6:44189349-44203169 | kgp17033193 | rs527322 |

*Fig. 2-5*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| MRPS16 | chr10:75006445-75012451 | chr10:74506445-75512451 | chr10:74678606-74682457 | kgp21628722 | rs12243089 |
| MTNR1A | chr4:187454808-187476537 | chr4:186954808-187976537 | chr4:187691802-187713531 | rs12648771 | rs4476657 |
| MTNR1B | chr11:92702788-92715948 | chr11:92202788-93215948 | chr11:92342436-92355596 | kgp10063029 | rs2658801 |
| MYC | chr8:128748314-128753680 | chr8:128248314-129253680 | chr8:128817497-128822855 | kgp3177285 | kgp1944877 |
| MYO6 | chr6:76458908-76629254 | chr6:75958908-77129254 | chr6:76515628-76685974 | kgp17262775 | kgp17183304 |
| NANS | chr9:100818958-100845365 | chr9:100318958-101345365 | chr9:99847709-99885178 | rs10817759 | rs2778908 |
| NCK1 | chr3:136581049-136667968 | chr3:136081049-137167968 | chr3:138063762-138150658 | kgp117446 | kgp10600232 |
| NFKBIA | chr14:35870715-35873960 | chr14:35370715-36373960 | chr14:34940466-34943711 | kgp19552677 | kgp19707730 |
| NPY2R | chr4:156129780-156138228 | chr4:155629780-156638228 | chr4:156349230-156357678 | kgp3956236 | kgp20850236 |
| NUDC | chr1:27248223-27272887 | chr1:26748223-27772887 | chr1:27120810-27145474 | rs11247955 | kgp15594139 |
| OPRD1 | chr1:29138653-29190208 | chr1:28638653-29690208 | chr1:29011240-29062795 | kgp9104521 | kgp15855740 |
| PAFAH1B3 | chr19:42801184-42806952 | chr19:42301184-43306952 | chr19:47493024-47498563 | kgp21540635 | kgp22735078 |
| PCBP1 | chr2:70314584-70316334 | chr2:69814584-70816334 | chr2:70168204-70169836 | kgp14596264 | kgp6568959 |
| PCDHA4 | chr5:140186671-140391929 | chr5:139686671-140891929 | chr5:140166855-140372115 | kgp6468526 | kgp10727572 |
| PCID1 | chr11:32605313-32624037 | chr11:32105313-33124037 | chr11:32561889-32580613 | kgp13035948 | rs10836023 |
| PCMT1 | chr6:150070830-150132557 | chr6:149570830-150632557 | chr6:150112657-150174249 | kgp17277449 | kgp10169289 |
| PDCD5 | chr19:33072093-33078358 | chr19:32572093-33578358 | chr19:37763943-37770169 | kgp21531284 | rs7259333 |
| PDE1B | chr12:54943176-54973023 | chr12:54443176-55473023 | chr12:53229670-53259290 | kgp18962385 | rs11171250 |
| PDE6G | chr17:79617488-79623607 | chr17:79117488-80123607 | chr17:77227893-77234038 | kgp317116 | kgp13898509 |
| PGM1 | chr1:64058946-64125916 | chr1:63558946-64625916 | chr1:63831534-63898505 | kgp175729 | kgp15416792 |

*Fig. 2-6*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| PHKB | chr16:47495209-47735434 | chr16:46995209-48235434 | chr16:46052710-46292935 | kgp8481371 | rs16945930 |
| PHKG2 | chr16:30759619-30772497 | chr16:30259619-31272497 | chr16:30667237-30676183 | kgp16316196 | kgp22773724 |
| PICK1 | chr22:38453261-38471708 | chr22:37953261-38971708 | chr22:36783207-36801654 | kgp5170623 | kgp1759680 |
| PIK3CA | chr3:178866310-178952497 | chr3:178366310-179452497 | chr3:180349004-180435191 | rs7615444 | rs1025864 |
| PIK3R1 | chr5:67511583-67597649 | chr5:67011583-68097649 | chr5:67547359-67633405 | kgp7844449 | rs7737296 |
| PLA2G7 | chr6:46672052-46703430 | chr6:46172052-47203430 | chr6:46780011-46811110 | kgp4678268 | kgp9155835 |
| PLCB1 | chr20:8113295-8865547 | chr20:7613295-9365547 | chr20:8061295-8813547 | kgp19226483 | rs2076234 |
| PLCB3 | chr11:64018994-64036924 | chr11:63518994-64536924 | chr11:63775697-63793195 | kgp9427286 | rs484886 |
| PLCG2 | chr16:81812898-81991899 | chr16:81312898-82491899 | chr16:80370430-80549400 | kgp4622733 | kgp3230988 |
| PPIH | chr1:43124047-43142429 | chr1:42624047-43642429 | chr1:42896634-42915016 | kgp1870818 | rs11210802 |
| PRDX1 | chr1:45976706-45988562 | chr1:45476706-46488562 | chr1:45749293-45760196 | rs3806405 | kgp15560310 |
| PRKCA | chr17:64298925-64806862 | chr17:63798925-65306862 | chr17:61729387-62237324 | kgp13847618 | kgp13994829 |
| PRLHR | chr10:120352915-120355160 | chr10:119852915-120855160 | chr10:120342905-120345150 | rs853584 | kgp21690663 |
| PRMT1 | chr19:50180408-50191707 | chr19:49680408-50691707 | chr19:54872307-54883516 | kgp1460116 | kgp5315133 |
| PSAT1 | chr9:80912058-80945009 | chr9:80412058-81445009 | chr9:80101878-80134829 | kgp2581728 | kgp9769053 |
| PSEN1 | chr14:73603142-73690399 | chr14:73103142-74190399 | chr14:72672931-72756862 | kgp8405661 | kgp19611371 |
| PSMA1 | chr11:14526421-14665180 | chr11:14026421-15165180 | chr11:14482997-14621739 | kgp12643195 | kgp13010596 |
| PSMC1 | chr14:90722893-90738966 | chr14:90222893-91238966 | chr14:89792646-89808719 | rs10140098 | kgp19595798 |
| PSMD1 | chr2:231921577-232037540 | chr2:231421577-232537540 | chr2:231629852-231745717 | rs1678155 | kgp11602861 |
| PSMD6 | chr3:63996230-64009658 | chr3:63496230-64509658 | chr3:63971270-63984698 | kgp9706776 | kgp17718198 |

*Fig. 2-7*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| PSME1 | chr14:24605377-24608176 | chr14:24105377-25108176 | chr14:23675217-23678016 | kgp11494860 | kgp2234181 |
| PTHR2 | chr2:209353736-209704818 | chr2:208853736-210204818 | chr2:209061981-209413063 | kgp14652386 | rs1020407 |
| PYGL | chr14:51371934-51411248 | chr14:50871934-51911248 | chr14:50441686-50480984 | kgp10991856 | rs7146882 |
| PYGM | chr11:64513860-64528187 | chr11:64013860-65028187 | chr11:64270436-64284763 | kgp12876954 | rs675671 |
| RAB2 | chr8:61429469-61536203 | chr8:60929469-62036203 | chr8:61592023-61698757 | kgp7067636 | rs3864667 |
| RALA | chr7:39663151-39747723 | chr7:39163151-40247723 | chr7:39629686-39714242 | kgp22733616 | rs11768838 |
| RCC2 | chr1:17733250-17766250 | chr1:17233250-18266250 | chr1:17605865-17638807 | kgp15535308 | kgp7647703 |
| RGS2 | chr1:192778168-192781407 | chr1:192278168-193281407 | chr1:191044793-191048026 | rs10921130 | kgp11065785 |
| RHOA | chr3:49396578-49449526 | chr3:48896578-49949526 | chr3:49371582-49424530 | kgp11466037 | rs868891 |
| RPA2 | chr1:28218048-28241236 | chr1:27718048-28741236 | chr1:28090635-28113823 | rs12033326 | kgp15705538 |
| RPLP2 | chr11:809935-812876 | chr11:309935-1312876 | chr11:799935-802876 | kgp11473410 | kgp7750669 |
| RPN2 | chr20:35807455-35870025 | chr20:35307455-36370025 | chr20:35240887-35303439 | kgp9846122 | kgp19260650 |
| RPS14 | chr5:149823791-149829319 | chr5:149323791-150329319 | chr5:149803984-149809512 | kgp22444746 | kgp22218062 |
| RRM1 | chr11:4137307-4223759 | chr11:3637307-4723759 | chr11:4072499-4116682 | rs6578398 | kgp4491491 |
| S100A6 | chr1:153507075-153508717 | chr1:153007075-154008717 | chr1:151773699-151775341 | kgp15193014 | rs10908627 |
| SACS | chr13:23902964-24007841 | chr13:23402964-24507841 | chr13:22800964-22905841 | kgp16818396 | rs2765089 |
| SARS | chr1:109756514-109780804 | chr1:109256514-110280804 | chr1:109558062-109582308 | kgp5910329 | rs1803687 |
| SCTR | chr2:120197418-120282028 | chr2:119697418-120782028 | chr2:119913888-119998498 | kgp12364473 | kgp22762988 |
| SET | chr9:131445933-131458675 | chr9:130945933-131958675 | chr9:130485754-130498496 | kgp11282765 | kgp18608937 |
| SF3B14 | chr2:24290453-24299314 | chr2:23790453-24799314 | chr2:24143957-24152818 | kgp14521970 | rs12474894 |

*Fig. 2-8*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| SHBG | chr17:7517381-7536700 | chr17:7017381-8036700 | chr17:7458106-7477395 | kgp7760759 | rs6503086 |
| SIAH1 | chr16:48390274-48482309 | chr16:47890274-48982309 | chr16:46947777-47039810 | kgp4639784 | kgp7644930 |
| SLC2A1 | chr1:43391045-43424847 | chr1:42891045-43924847 | chr1:43163632-43197434 | kgp2036523 | rs2782652 |
| SLC6A3 | chr5:1392904-1445543 | chr5:892904-1945543 | chr5:1445909-1498538 | kgp22585075 | kgp9690399 |
| SNCA | chr4:90645249-90759447 | chr4:90145249-91259447 | chr4:90865727-90978470 | kgp11552673 | kgp8195783 |
| SNRPB2 | chr20:16710608-16722417 | chr20:16210608-17222417 | chr20:16658628-16670037 | kgp19326624 | kgp19208923 |
| SOCS6 | chr18:67956136-67997434 | chr18:67456136-68497434 | chr18:66107116-66148414 | kgp10928836 | rs4243325 |
| SOCS7 | chr17:36508006-36561846 | chr17:36008006-37061846 | chr17:33761530-33809545 | rs12936144 | rs4794796 |
| SRC | chr20:35973087-36033821 | chr20:35473087-36533821 | chr20:35406501-35467235 | kgp19359278 | kgp9150551 |
| STAU1 | chr20:47729875-47805288 | chr20:47229875-48305288 | chr20:47163282-47238695 | rs11905650 | kgp19233876 |
| STX12 | chr1:28099693-28150963 | chr1:27599693-28650963 | chr1:27972280-28023550 | kgp22731625 | kgp15287949 |
| SYK | chr9:93564011-93660842 | chr9:93064011-94160842 | chr9:92603890-92698304 | kgp12394293 | rs894962 |
| TBCA | chr5:76986994-77072185 | chr5:76486994-77572185 | chr5:77022750-77107941 | rs2928164 | rs10059285 |
| TBXA2R | chr19:3594503-3606831 | chr19:3094503-4106831 | chr19:3545503-3557658 | kgp21472781 | kgp1760692 |
| TCP1 | chr6:160199529-160210735 | chr6:159699529-160710735 | chr6:160119519-160130725 | kgp16923201 | kgp10518192 |
| TEAD3 | chr6:35441373-35464861 | chr6:34941373-35964861 | chr6:35549351-35572839 | rs847861 | kgp3339 |
| TFAM | chr10:60145175-60155897 | chr10:59645175-60655897 | chr10:59815181-59825903 | kgp9406331 | kgp6514369 |
| TGM2 | chr20:36756863-36793700 | chr20:36256863-37293700 | chr20:36190277-36227114 | rs6067098 | kgp9992037 |
| TJP1 | chr15:29992356-30114706 | chr15:29492356-30614706 | chr15:27779648-27901998 | kgp19895791 | rs2604694 |
| TLR10 | chr4:38773859-38784611 | chr4:38273859-39284611 | chr4:38450646-38460984 | kgp9612652 | rs6531705 |

*Fig. 2-9*

| Tier 2 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500kb) |
|---|---|---|---|---|---|
| TMEM4 | chr12:56704213-56710128 | chr12:56204213-57210128 | chr12:54990480-54996395 | kgp6718939 | kgp6565807 |
| TPI1 | chr12:6976583-6980110 | chr12:6476583-7480110 | chr12:6846966-6850253 | kgp3883976 | kgp18849054 |
| TRAF2 | chr9:139776384-139821067 | chr9:139276384-140321067 | chr9:138896205-138940888 | rs3812570 | kgp9465784 |
| TRMT112 | chr11:64084164-64085033 | chr11:63584164-64585033 | chr11:63840740-63841609 | kgp1242205 | rs2957154 |
| TUBA1 | chr12:49521565-49525304 | chr12:49021565-50025304 | chr12:47807832-47811571 | kgp4948752 | kgp18737983 |
| TUBA1A | chr12:49578582-49582861 | chr12:49078582-50082861 | chr12:47864849-47869128 | kgp5373125 | kgp1407179 |
| TUBA1B | chr12:49521566-49525304 | chr12:49021566-50025304 | chr12:47807832-47866883 | kgp4948752 | kgp18737983 |
| TUBA2 | chr12:49578793-49580616 | chr12:49078793-50080616 | chr12:47865060-47866883 | kgp18983720 | kgp75177 |
| TUBB | chr6:1981087-1986127 | chr6:1981087-1986127 | chr6:1935034-1940074 | kgp17000846 | kgp16908954 |
| TUBG1 | chr17:40761357-40767256 | chr17:40261357-41267256 | chr17:38015219-38020777 | rs12600570 | kgp3534380 |
| TXN | chr9:113006091-113018920 | chr9:112506091-113518920 | chr9:112046130-112058599 | kgp18601393 | kgp652846 |
| TXNDC4 | chr9:102741463-102861330 | chr9:102241463-103361330 | chr9:101781284-101901151 | kgp22740558 | rs10989168 |
| TXNL2 | chr10:131934639-131977932 | chr10:131434639-132477932 | chr10:131824629-131867922 | kgp21587397 | rs2921907 |
| TYMS | chr18:657603-673499 | chr18:157603-1173499 | chr18:647603-663499 | kgp1671520 | kgp5560925 |
| UBQLN4 | chr1:156005091-156023516 | chr1:155505091-156523516 | chr1:154271715-154290140 | rs12746592 | kgp204451 |
| UCHL1 | chr4:41258897-41270446 | chr4:40758897-41770446 | chr4:40953685-40965203 | rs10029833 | kgp21157719 |
| VIPR1 | chr3:42530790-42579065 | chr3:42030790-43079065 | chr3:42519120-42554064 | rs794894 | kgp10771397 |
| YWHAQ | chr2:9724105-9771106 | chr2:9224105-10271106 | chr2:9641556-9688557 | kgp7327726 | rs1138729 |
| ZAP70 | chr2:98330030-98356323 | chr2:97830030-98856323 | chr2:97696462-97722755 | kgp10723114 | kgp14308801 |

*Fig. 2-10*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| ABI3 | chr17:47287588-47300587 | chr17:46787588-47800587 | chr17:44642587-44655586 | rs7211412 | kgp13987803 |
| ACTA1 | chr1:229566992-229569843 | chr1:229066992-230069843 | chr1:227633615-227636466 | kgp706951 | kgp9594907 |
| ACTN2 | chr1:236849769-236927558 | chr1:236349769-237427558 | chr1:234916392-234994181 | kgp12139182 | kgp9945691 |
| ADCY5 | chr3:123001142-123167392 | chr3:122501142-123667392 | chr3:124486088-124650082 | kgp5729470 | kgp18234294 |
| ADCY8 | chr8:131792546-132052835 | chr8:131292546-132552835 | chr8:131861728-132122017 | rs11778881 | kgp4563992 |
| ADCYAP1R1 | chr7:31092075-31151093 | chr7:30592075-31651093 | chr7:31058666-31112836 | kgp6410265 | kgp5976045 |
| ADD3 | chr10:111756107-111895323 | chr10:111256107-112395323 | chr10:111746097-111885313 | kgp2922347 | kgp21705322 |
| AFAP1 | chr4:7760439-7941653 | chr4:7260439-8441653 | chr4:7811339-7992553 | kgp10066670 | kgp2565038 |
| AGTR1 | chr3:148415657-148460790 | chr3:147915657-148960790 | chr3:149898347-149943480 | kgp17969929 | rs9827666 |
| AHCYL1 | chr1:110527386-110566364 | chr1:110027386-111066364 | chr1:110328830-110367887 | kgp15280262 | kgp8467474 |
| AKAP12 | chr6:151561133-151679694 | chr6:151061133-152179694 | chr6:151603201-151719602 | kgp17415975 | kgp17180004 |
| AKAP13 | chr15:85923870-86292586 | chr15:85423870-86792586 | chr15:83724874-84093590 | rs11073778 | kgp10945265 |
| AKAP5 | chr14:64932216-64941221 | chr14:64432216-65441221 | chr14:64001969-64010974 | rs945029 | rs4499147 |
| AKAP9 | chr7:91570188-91739987 | chr7:91070188-92239987 | chr7:91408127-91577925 | kgp7513665 | kgp8102448 |
| AKR1C3 | chr10:5005453-5149878 | chr10:4505453-5649878 | chr10:4995453-5139878 | rs1679414 | kgp8379007 |
| AKT1 | chr14:105235686-105262080 | chr14:104735686-105762080 | chr14:104306731-104333125 | kgp10896929 | kgp7260890 |
| ANK2 | chr4:113739238-114304896 | chr4:113239238-114804896 | chr4:113958687-114524345 | kgp8454825 | kgp10144793 |
| ANKRD24 | chr19:4183350-4224811 | chr19:3683350-4724811 | chr19:4134350-4175811 | kgp3226366 | rs7255543 |

*Fig. 3-1*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| ANXA6 | chr5:150480266-150537443 | chr5:149980266-151037443 | chr5:150460460-150517560 | kgp22603058 | rs11747938 |
| ANXA7 | chr10:75135188-75173841 | chr10:74635188-75673841 | chr10:74805194-74843847 | kgp21588521 | kgp5026768,rs2227568 |
| APLP2 | chr11:129939715-130014706 | chr11:129439715-130514706 | chr11:129445010-129519910 | kgp22802171 | rs7116475 |
| AR | chrX:66763873-66950461 | chrX:66263873-67450461 | chrX:66680598-66860844 | rs478505 | kgp22776402 |
| ARF1 | chr1:228270360-228286913 | chr1:227770360-228786913 | chr1:226336983-226353536 | kgp7035482 | kgp5092378 |
| ARF3 | chr12:49329991-49351252 | chr12:48829991-49851252 | chr12:47616258-47637519 | kgp9963537 | kgp19162961 |
| ARHGAP1 | chr11:46698631-46722120 | chr11:46198631-47222120 | chr11:46655207-46678696 | rs11038804 | kgp12872953 |
| ARHGEF1 | chr19:42399421-42434296 | chr19:41899421-42934296 | chr19:47079106-47103444 | kgp21546138 | kgp9753873 |
| ARL3 | chr10:104433483-104474190 | chr10:103933483-104974190 | chr10:104423477-104464180 | rs4919614 | kgp2065500 |
| ARL8B | chr3:5163929-5222601 | chr3:4663929-5722601 | chr3:5138929-5197601 | kgp5083934 | kgp17728482 |
| ASCL2 | chr11:2289727-2292182 | chr11:1789727-2792182 | chr11:2246303-2248758 | kgp12845252 | kgp7129584 |
| ATF3 | chr1:212738675-212794119 | chr1:212238675-213294119 | chr1:210805319-210860739 | rs10863936 | kgp12569686 |
| ATN1 | chr12:7033625-7053815 | chr12:6533625-7553815 | chr12:6903886-6924076 | kgp18714644 | kgp19128481 |
| ATP1B1 | chr1:169075946-169101960 | chr1:168575946-169601960 | chr1:167342570-167368584 | rs10800363 | kgp305361 |
| ATP2B1 | chr12:89981825-90049844 | chr12:89481825-90549844 | chr12:88505956-88573975 | kgp4237218 | kgp19117315 |
| ATP2B2 | chr3:10365706-10749716 | chr3:9865706-11249716 | chr3:10342743-10724716 | kgp7774534 | rs7625756 |
| ATXN1 | chr6:16299342-16761721 | chr6:15799342-17261721 | chr6:16407321-16869700 | kgp2173519 | rs6921352 |
| ATXN3 | chr14:92524895-92572965 | chr14:92024895-93072965 | chr14:91594648-91642718 | kgp11986238 | rs2146498 |
| ATXN7 | chr3:63850232-63989136 | chr3:63350232-64489136 | chr3:63825272-63964176 | rs9311874 | kgp797614 |
| AVPR1A | chr12:63540215-63546590 | chr12:63040215-64046590 | chr12:61826482-61832857 | rs952865 | kgp3671976 |
| B4GALT1 | chr9:33110638-33167356 | chr9:32610638-33667356 | chr9:33100638-33157356 | kgp18539535 | kgp18370584 |

*Fig. 3-2*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| BANK1 | chr4:102341117-102995969 | chr4:101841117-103495969 | chr4:102560140-103214992 | rs6851921 | kgp20796561 |
| BCAP31 | chrX:152965946-152990201 | chrX:152465946-153490201 | chrX:152619145-152643081 | rs6627302 | kgp22764947 |
| BCAR1 | chr16:75262927-75301951 | chr16:74762927-75801951 | chr16:73820428-73859452 | kgp7158675 | kgp16367309 |
| BCL2 | chr18:60790578-60986657 | chr18:60290578-61486657 | chr18:58941558-59137637 | rs435439 | rs1720898 |
| BMI1 | chr10:22610138-22620414 | chr10:22110138-23120414 | chr10:22645304-22660192 | kgp3019331 | rs12775513 |
| BMPR2 | chr2:203241049-203432474 | chr2:202741049-203932474 | chr2:202949294-203140719 | rs2072504 | kgp3183288 |
| BOC | chr3:112930411-113006305 | chr3:112430411-113506305 | chr3:114413101-114488995 | kgp12164746 | kgp3299668 |
| BPGM | chr7:134331530-134364567 | chr7:133831530-134864567 | chr7:133982094-134015107 | kgp13720725 | kgp8542611 |
| BRCA1 | chr17:41196311-41322420 | chr17:40696311-41822420 | chr17:38449839-38530994 | kgp1014784 | kgp13921789 |
| BRCA2 | chr13:32889616-32973809 | chr13:32389616-33473809 | chr13:31787616-31871809 | rs2146284 | rs9596502 |
| BRD7 | chr16:50352928-50402845 | chr16:49852928-50902845 | chr16:48910441-48960330 | kgp3843480 | kgp6018549 |
| BRF2 | chr8:37701397-37707431 | chr8:37201397-38207431 | chr8:37820560-37826569 | rs7818467 | kgp22772561 |
| BRMS1 | chr11:66104803-66112582 | chr11:65604803-66612582 | chr11:65861379-65869158 | kgp22746103 | kgp12809093 |
| BTK | chrX:100604434-100645770 | chrX:100104434-101145770 | chrX:100491097-100532426 | kgp22759057 | kgp22747202 |
| C1orf128 | chr1:24104887-24114722 | chr1:23604887-24614722 | chr1:23977474-23987309 | kgp283495 | kgp2701674 |
| C1orf42 | chr1:152486978-152488481 | chr1:151986978-152988481 | chr1:150753602-150755105 | kgp15694971 | rs4363385 |
| C1QBP | chr17:5336098-5342471 | chr17:4836098-5842471 | chr17:5276822-5283195 | kgp14047547 | rs17825455 |
| C20orf20 | chr20:61427804-61431945 | chr20:60927804-61931945 | chr20:60898282-60902390 | kgp9228388 | kgp19363625 |
| C20orf24 | chr20:35234136-35240960 | chr20:34734136-35740960 | chr20:34636369-34674374 | rs6060820 | rs1744760 |
| C4orf14 | chr4:57829515-57843826 | chr4:57329515-58343826 | chr4:57524272-57538583 | kgp22756132 | kgp1831456 |
| C4orf17 | chr4:100432160-100463460 | chr4:99932160-100963460 | chr4:100651222-100682483 | kgp20878925 | kgp21204347 |

*Fig. 3-3*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| C5orf25 | chr5:175665369-175772990 | chr5:175165369-176272990 | chr5:175598008-175705596 | kgp7679859 | rs480782 |
| C9orf25 | chr9:34398181-34458568 | chr9:33898181-34958568 | chr9:34388181-34448568 | kgp22772722 | rs7031962 |
| CABIN1 | chr22:24407764-24574596 | chr22:23907764-25074596 | chr22:22737764-22904596 | kgp5637302 | kgp5793536 |
| CABP1 | chr12:121078421-121105127 | chr12:120578421-121605127 | chr12:119562804-119589510 | kgp18737891 | rs503720 |
| CACNA1C | chr12:2162415-2807115 | chr12:1662415-3307115 | chr12:2032676-2677376 | kgp9477564 | kgp1276729 |
| CALCR | chr7:93053798-93204042 | chr7:92553798-93704042 | chr7:92891734-93041978 | kgp3815436 | kgp10249142 |
| CALD1 | chr7:134464163-134655480 | chr7:133964163-135155480 | chr7:134114710-134306012 | rs16874469 | kgp22829820 |
| CAMK2A | chr5:149599053-149669403 | chr5:149099053-150169403 | chr5:149579247-149649529 | kgp9269229 | kgp22536863 |
| CAMK2G | chr10:75572258-75634349 | chr10:75072258-76134349 | chr10:75242264-75304349 | kgp5617603 | kgp4007437 |
| CAMKK1 | chr17:3763616-3796337 | chr17:3263616-4296337 | chr17:3710365-3743086 | kgp4927794 | kgp13998561 |
| CAMKK2 | chr12:121675494-121736111 | chr12:121175494-122236111 | chr12:120159877-120220494 | kgp3636283,rs1800556 | kgp3169612 |
| CAPN2 | chr1:223889294-223963720 | chr1:223389294-224463720 | chr1:221966741-222030343 | rs2430408 | kgp15138476 |
| CASP3 | chr4:185548849-185570629 | chr4:185048849-186070629 | chr4:185785843-185807623 | kgp8529169 | rs2046535 |
| CASP6 | chr4:110609784-110624629 | chr4:110109784-111124629 | chr4:110829233-110844078 | kgp20840443 | kgp20817413 |
| CASP7 | chr10:115438934-115490664 | chr10:114938934-115990664 | chr10:115428924-115480654 | kgp12503193 | rs12266538 |
| CASP8 | chr2:202098165-202152434 | chr2:201598165-202652434 | chr2:201806410-201860679 | kgp6115041 | rs12468196 |
| CASR | chr3:121902529-122005344 | chr3:121402529-122505344 | chr3:123385219-123488034 | kgp18115887 | rs13095775 |
| CAV1 | chr7:115929905-116201239 | chr7:115429905-116701239 | chr7:115717141-115988466 | kgp13705413 | kgp1550529,rs13222576 |
| CBL | chr11:119076989-119178859 | chr11:118576989-119678859 | chr11:118582199-118684069 | kgp4184476 | rs10892470 |
| CBX1 | chr17:46147413-46178883 | chr17:45647413-46678883 | chr17:43502412-43533882 | kgp4510682 | kgp14007862 |
| CCDC106 | chr19:56158953-56164526 | chr19:55658953-56664526 | chr19:60850765-60856338 | kgp2072564 | rs901476 |

*Fig. 3-4*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| CCND1 | chr11:69455872-69469242 | chr11:68955872-69969242 | chr11:69165053-69178423 | kgp12357966 | rs1893085 |
| CCNE1 | chr19:30302900-30315215 | chr19:29802900-30815215 | chr19:34994740-35007059 | kgp21358604 | kgp21349680 |
| CCR4 | chr3:32993065-32996403 | chr3:32493065-33496403 | chr3:32968069-32971407 | rs4955290 | kgp3855989 |
| CCR5 | chr3:46411632-46417697 | chr3:45911632-46917697 | chr3:46386636-46392701 | kgp17737690 | rs936173 |
| CD163 | chr12:7623411-7656414 | chr12:7123411-8156414 | chr12:7514676-7547681 | rs9668071 | kgp3219786 |
| CD5 | chr11:60869929-60895323 | chr11:60369929-61395323 | chr11:60626505-60651899 | rs7927817 | kgp13056421 |
| CD9 | chr12:6309481-6347437 | chr12:5809481-6847437 | chr12:6179133-6217688 | rs9669580 | kgp1124940 |
| CDC2 | chr10:62538235-62553924 | chr10:62038235-63053924 | chr10:62208241-62223930 | kgp21922934 | rs3125326 |
| CDKN2C | chr1:51433607-51440309 | chr1:50933607-51940309 | chr1:51206195-51212897 | rs17106219 | kgp15324656 |
| CENTA1 | chr7:937537-994306 | chr7:437537-1494306 | chr7:904063-960832 | kgp4856315,rs3924019 | kgp11391801 |
| CETN3 | chr5:89689528-89705603 | chr5:89189528-90205603 | chr5:89725284-89741359 | rs277054 | kgp22368793 |
| CFTR | chr7:117120016-117308718 | chr7:116620016-117808718 | chr7:116907252-117095954 | kgp13265715 | kgp13590397 |
| CHAT | chr10:50822349-50901939 | chr10:50322349-51401939 | chr10:50487146-50543156 | kgp8189482 | kgp8898453 |
| CHD3 | chr17:7788122-7816075 | chr17:7288122-8316075 | chr17:7728847-7756800 | rs7208523 | kgp11776706 |
| CHUK | chr10:101948123-101989344 | chr10:101448123-102489344 | chr10:101938113-101979334 | kgp6141810 | kgp9150190 |
| CISH | chr3:50643884-50649262 | chr3:50143884-51149262 | chr3:50618929-50624207 | kgp5610191 | rs6783700 |
| CKAP1 | chr19:36605888-36616849 | chr19:36105888-37116849 | chr19:41297728-41308689 | rs7249516 | rs3108171 |
| CKMT2 | chr5:80529138-80562217 | chr5:80029138-81062217 | chr5:80564894-80597973 | kgp9822295 | kgp7416171 |
| CLTB | chr5:175819455-175843540 | chr5:175319455-176343540 | chr5:175752061-175776146 | rs4867811 | kgp1551194 |
| CLU | chr8:27454433-27472328 | chr8:26954433-27972328 | chr8:27510367-27528244 | kgp886026 | rs4732823 |
| CMIP | chr16:81478774-81745367 | chr16:80978774-82245367 | chr16:80036394-80302866 | rs11150329 | kgp16425289 |

*Fig. 3-5*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| CNGA2 | chrX:150903217-150914036 | chrX:150403217-151414036 | chrX:150653873-150664692 | rs1202896 | kgp22766776 |
| CNKSR2 | chrX:21392535-21672813 | chrX:20892535-22172813 | chrX:21302900-21580700 | kgp22768242 | kgp22744096 |
| CNN1 | chr19:11649578-11661138 | chr19:11149578-12161138 | chr19:11510578-11522138 | kgp11148982 | rs8100428 |
| CNR2 | chr1:24200459-24239817 | chr1:23700459-24739817 | chr1:24073046-24112404 | rs9887921 | kgp7256331 |
| COIL | chr17:55015560-55038411 | chr17:54515560-55538411 | chr17:52370559-52393410 | rs7219528 | kgp13879956 |
| CORO1B | chr11:67205517-67211292 | chr11:66705517-67711292 | chr11:66962093-66967839 | kgp8733070 | kgp12910446 |
| COX17 | chr3:119388371-119396243 | chr3:118888371-119896243 | chr3:120871061-120878933 | rs2903301 | rs7634938 |
| CPE | chr4:166300096-166419482 | chr4:165800096-166919482 | chr4:166519546-166638932 | rs4541465 | kgp20841166 |
| CRADD | chr12:94071150-94288616 | chr12:93571150-94788616 | chr12:92595281-92768662 | kgp18995270 | rs10859694 |
| CREM | chr10:35415768-35501886 | chr10:34915768-36001886 | chr10:35455806-35541892 | kgp21684668 | rs654221 |
| CRIPT | chr2:46844324-46852881 | chr2:46344324-47352881 | chr2:46697811-46705687 | kgp11216746 | kgp5110136 |
| CSNK2A1 | chr20:463337-524482 | chr20:1-1024482 | chr20:411337-472482 | kgp19358001 | kgp2852236 |
| CSNK2A2 | chr16:58191811-58231782 | chr16:57691811-58731782 | chr16:56749312-56789283 | kgp3607479 | kgp9299300 |
| CSNK2B | chr6:2919235-2923423 | chr6:2919235-2923423 | chr6:31741635-31748206 | kgp7558035 | kgp17052091 |
| CTNNB1 | chr3:41236400-41280845 | chr3:40736400-41780845 | chr3:41211404-41255849 | kgp17791054 | kgp17873276 |
| DAPK3 | chr19:3958451-3971038 | chr19:3458451-4471038 | chr19:3909451-3922038 | kgp9392695 | kgp6448823 |
| DBN1 | chr5:176883613-176900694 | chr5:176383613-177400694 | chr5:176816219-176833300 | rs3733876 | kgp6700800 |
| DDIT4 | chr10:74033676-74035797 | chr10:73533676-74535797 | chr10:73703682-73705803 | kgp21593001 | kgp10561095 |
| DDX5 | chr17:62494373-62502484 | chr17:61994373-63002484 | chr17:59926199-59932869 | kgp14113893 | rs4239089 |
| DEFB1 | chr8:6728096-6735529 | chr8:6228096-7235529 | chr8:6715508-6722939 | kgp20078124 | rs12680482 |
| DGKD | chr2:234263152-234380743 | chr2:233763152-234880743 | chr2:233927891-234045482 | rs12477794 | rs28902188 |

*Fig. 3-6*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| DGKZ | chr11:46354454-46402104 | chr11:45854454-46902104 | chr11:46311314-46358680 | rs2090602 | kgp22737291 |
| DIRAS2 | chr9:93372113-93405108 | chr9:92872113-93905108 | chr9:92411933-92444928 | rs7860989 | kgp10944799 |
| DLG1 | chr3:196769430-197026143 | chr3:196269430-197526143 | chr3:198253827-198510540 | kgp18074003 | rs841672 |
| DLG3 | chrX:69664704-69725339 | chrX:69164704-70225339 | chrX:69581448-69642062 | kgp22756738 | kgp22752290 |
| DLG4 | chr17:7093209-7123369 | chr17:6593209-7623369 | chr17:7033933-7063781 | kgp10999626 | rs3744258 |
| DNM1 | chr9:130965662-131017527 | chr9:130465662-131517527 | chr9:130005483-130057348 | kgp1183767 | rs4836625 |
| DNM3 | chr1:171810620-172381857 | chr1:171310620-172881857 | chr1:170077260-170648480 | kgp15671556 | rs2213746 |
| DNMT2 | chr10:17184981-17243681 | chr10:16684981-17743681 | chr10:17224987-17283687 | kgp1566842 | kgp21855354 |
| DPYSL2 | chr8:26371708-26515693 | chr8:25871708-27015693 | chr8:26427707-26571610 | rs11998023 | rs12544814 |
| DRD1 | chr5:174867674-174871163 | chr5:174367674-175371163 | chr5:174800280-174803769 | kgp4432341 | kgp8293487 |
| DRD1IP | chr5:174867675-174871163 | chr5:174367675-175371163 | chr5:174800281-174803769 | kgp4432341 | kgp8293487 |
| DST | chr6:56479153-56716714 | chr6:55979153-57216714 | chr6:56430743-56816422 | kgp1980963 | rs12209200 |
| DVL1 | chr1:1270657-1284492 | chr1:770657-1784492 | chr1:1260520-1274355 | kgp4076808 | kgp15201879 |
| DVL2 | chr17:7128660-7137863 | chr17:6628660-7637863 | chr17:7069384-7078587 | kgp1788685 | kgp2456831,rs3744255 |
| DVL3 | chr3:183873283-183891314 | chr3:183373283-184391314 | chr3:185355977-185374008 | kgp10156744 | kgp4088221 |
| EDF1 | chr9:139756570-139760738 | chr9:139256570-140260738 | chr9:138876391-138880559 | rs3829109 | kgp4292076 |
| EDG3 | chr9:91606324-91620069 | chr9:91106324-92120069 | chr9:90796144-90809889 | kgp18366537 | kgp113389 |
| EDG5 | chr19:10332109-10341948 | chr19:9832109-10841948 | chr19:10193109-10202948 | kgp21505357 | kgp12277401 |
| EDG8 | chr19:10623418-10628668 | chr19:10123418-11128668 | chr19:10484418-10489668 | rs4804478 | kgp9055694 |
| EEF1D | chr8:144661866-144679845 | chr8:144161866-145179845 | chr8:144733040-144750726 | kgp20077380 | kgp4311396 |
| EEF2 | chr19:3976053-3985461 | chr19:3476053-4485461 | chr19:3927053-3936461 | kgp21334437 | rs10406730 |

*Fig. 3-7*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| EFNB1 | chrX:68048839-68066029 | chrX:67548839-68566029 | chrX:67965564-67982754 | rs7879567 | kgp22774708 |
| EFNB2 | chr13:107142078-107187388 | chr13:106642078-107687388 | chr13:105940096-105985338 | rs9587049 | kgp1472981 |
| EIF1B | chr3:40351172-40353915 | chr3:39851172-40853915 | chr3:40326176-40328919 | kgp17543799 | kgp724180 |
| ENO2 | chr12:7023613-7032859 | chr12:6523613-7532859 | chr12:6893874-6903120 | kgp6644683 | kgp18788179 |
| EPB41 | chr1:29213602-29446558 | chr1:28713602-29946558 | chr1:29086214-29319545 | kgp15837735 | kgp8194212 |
| EPB41L1 | chr20:34679425-34820721 | chr20:34179425-35320721 | chr20:34142839-34284135 | rs1886695 | kgp10646202 |
| EPB41L2 | chr6:131160487-131384462 | chr6:130660487-131884462 | chr6:131202180-131426058 | kgp3398782 | kgp16921144 |
| EPHB2 | chr1:23037330-23241823 | chr1:22537330-23741823 | chr1:22909917-23114410 | rs2473249 | kgp22776625 |
| ESR1 | chr6:152011630-152424408 | chr6:151511630-152924408 | chr6:152053323-152466101 | rs9478984 | rs818451 |
| ESR2 | chr14:64693750-64805268 | chr14:64193750-65305268 | chr14:63763503-63875021 | kgp3039416 | kgp8515773 |
| ESRRG | chr1:216676587-217311097 | chr1:216176587-217811097 | chr1:214743210-215377720 | kgp2104463 | kgp3054869 |
| ETHE1 | chr19:44010870-44031396 | chr19:43510870-44531396 | chr19:48702710-48723236 | rs11668932 | kgp561363 |
| EWSR1 | chr22:29663997-29696515 | chr22:29163997-30196515 | chr22:27994016-28026515 | rs6005868 | rs4823054 |
| F11R | chr1:160965000-161008774 | chr1:160465000-161508774 | chr1:159231624-159275404 | rs678456 | kgp10744728 |
| FADD | chr11:70049268-70053508 | chr11:69549268-70553508 | chr11:69726916-69731134 | kgp12619639 | kgp12640488 |
| FAS | chr10:90729552-90775542 | chr10:90229552-91275542 | chr10:90740267-90765522 | kgp6970830 | kgp1640747 |
| FBLIM1 | chr1:16083153-16113084 | chr1:15583153-16613084 | chr1:15955740-15985671 | rs16851480 | kgp15648830 |
| FER | chr5:108083522-108523373 | chr5:107583522-109023373 | chr5:108111421-108551272 | rs11958626 | rs845734 |
| FEZ1 | chr11:125315640-125366206 | chr11:124815640-125866206 | chr11:124820857-124871333 | rs10160591 | kgp12966369 |
| FEZ2 | chr2:36779403-36825332 | chr2:36279403-37325332 | chr2:36632904-36678836 | kgp10246319 | kgp9712350 |
| FFAR1 | chr19:35842444-35843367 | chr19:35342444-36343367 | chr19:40534294-40535197 | rs8106116 | kgp21511691 |

*Fig. 3-8*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| FFAR2 | chr19:35939202-35941865 | chr19:35439202-36441865 | chr19:40631042-40633705 | rs2112502 | rs7247246 |
| FKBP1A | chr20:1349620-1373816 | chr20:849620-1873816 | chr20:1297621-1321745 | kgp4567229 | kgp10348674 |
| FLJ31945 | chr13:50699952-50702599 | chr13:50199952-51202599 | chr13:49597953-49600600 | kgp9786864 | kgp16621897 |
| FLJ41278 | chr12:65277553-65371302 | chr12:64777553-65871302 | chr12:63563820-63657569 | rs6581555 | kgp1662303 |
| FLNA | chrX:153576899-153603006 | chrX:153076899-154103006 | chrX:153230093-153256200 | rs7049293 | rs28412378 |
| FLNB | chr3:57994126-58157982 | chr3:57494126-58657982 | chr3:57969166-58133017 | rs7629743 | rs11130670 |
| FREQ | chr9:132934856-132999583 | chr9:132434856-133499583 | chr9:131974677-132039404 | kgp12208188 | kgp18380808 |
| FRS2 | chr12:69864128-69973562 | chr12:69364128-70473562 | chr12:68150395-68259829 | kgp19095191 | kgp12534834 |
| FSHR | chr2:49189295-49381666 | chr2:48689295-49881666 | chr2:49043155-49235134 | kgp297164 | kgp11229604 |
| FXN | chr9:71650478-71715094 | chr9:71150478-72215094 | chr9:70840163-70878772 | rs265076 | kgp213209 |
| FXR1 | chr3:180630233-180700539 | chr3:180130233-181200539 | chr3:182113145-182177647 | kgp22773686 | kgp3235523 |
| G6PD | chrX:153759605-153775787 | chrX:153259605-154275787 | chrX:153412799-153428981 | rs2239471 | kgp22745531 |
| GABRR1 | chr6:89887222-89927496 | chr6:89387222-90427496 | chr6:89944690-89983779 | kgp3728710 | kgp17056993 |
| GABRR2 | chr6:89967238-90024967 | chr6:89467238-90524967 | chr6:90023957-90081686 | kgp16994883 | kgp9012178 |
| GALR2 | chr17:74070891-74073573 | chr17:73570891-74573573 | chr17:71582486-71585168 | rs1042861 | rs16967307 |
| GAP43 | chr3:115342150-115440334 | chr3:114842150-115940334 | chr3:116825141-116922842 | rs10511341 | kgp18168870 |
| GC | chr4:72607410-72671237 | chr4:72107410-73171237 | chr4:72826274-72888622 | rs10013437 | kgp12025264 |
| GFAP | chr17:42982993-42992920 | chr17:42482993-43492920 | chr17:40338518-40348394 | rs8066197 | rs12947718 |
| GFI1 | chr1:92940317-92952433 | chr1:92440317-93452433 | chr1:92712905-92725021 | kgp80379 | kgp15436210 |
| GFI1B | chr9:135853893-135867084 | chr9:135353893-136367084 | chr9:134843714-134856903 | kgp1227599 | kgp22817803 |
| GFPT1 | chr2:69546900-69614386 | chr2:69046900-70114386 | chr2:69405910-69467829 | kgp7360674 | kgp14824626 |

*Fig. 3-9*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| GH1 | chr17:61994562-61996198 | chr17:61494562-62496198 | chr17:59348294-59349930 | kgp6455446 | kgp10132757 |
| GIT1 | chr17:27900486-27916610 | chr17:27400486-28416610 | chr17:24924612-24940736 | kgp14082001 | rs8065059 |
| GIT2 | chr12:110367606-110434194 | chr12:109867606-110934194 | chr12:108851991-108918483 | kgp8064273 | kgp556710 |
| GJA1 | chr6:121756744-121770873 | chr6:121256744-122270873 | chr6:121798443-121812572 | kgp5203283 | kgp1494786 |
| GJB1 | chrX:70435061-70445065 | chrX:69935061-70945065 | chrX:70351786-70361777 | kgp22820938 | rs35542412 |
| GMFB | chr14:54941208-54955744 | chr14:54441208-55455744 | chr14:54010958-54025494 | kgp5212952 | kgp7377769 |
| GNA12 | chr7:2767740-2883959 | chr7:2267740-3383959 | chr7:2734266-2850485 | kgp9177535 | kgp13694655 |
| GNAS | chr20:57414794-57486250 | chr20:56914794-57986250 | chr20:56848189-56919645 | rs471661 | rs729997 |
| GNAZ | chr22:23412668-23467221 | chr22:22912668-23967221 | chr22:21742668-21797221 | kgp15075658 | rs9680742 |
| GPM6A | chr4:176554087-176923648 | chr4:176054087-177423648 | chr4:176791081-177160642 | rs6849435 | kgp8852764 |
| GPSM2 | chr1:109419602-109476957 | chr1:108919602-109976957 | chr1:109221125-109274567 | kgp15175401 | kgp15178378 |
| GRB14 | chr2:165349322-165478360 | chr2:164849322-165978360 | chr2:165057568-165186606 | kgp8982508 | kgp14153450 |
| GRIA2 | chr4:158141294-158287226 | chr4:157641294-158787226 | chr4:158361185-158506676 | kgp22818527 | rs6836401 |
| GRIA3 | chrX:122318095-122624766 | chrX:121818095-123124766 | chrX:122145776-122452447 | rs7057244 | rs12559968 |
| GRIA4 | chr11:105480799-105852819 | chr11:104980799-106352819 | chr11:104986009-105358029 | kgp12888967 | kgp2959570 |
| GRIN1 | chr9:140033608-140063214 | chr9:139533608-140563214 | chr9:139153429-139183029 | kgp18425565 | kgp18521447 |
| GRIN2A | chr16:9847264-10276611 | chr16:9347264-10776611 | chr16:9762922-10184112 | kgp16441783 | rs9932893 |
| GRIN2B | chr12:13714409-14133022 | chr12:13214409-14633022 | chr12:13605676-14024289 | rs3741818 | kgp7391296 |
| GRK1 | chr13:114321596-114438637 | chr13:113821596-114938637 | chr13:113369597-113373973 | kgp16671784 | rs11147317 |
| GRK4 | chr4:2965342-3042474 | chr4:2465342-3542474 | chr4:2935140-3012272 | rs846252 | rs6821202 |
| GSK3A | chr19:42734337-42746736 | chr19:42234337-43246736 | chr19:47426177-47438576 | kgp21481263 | kgp10870487 |

*Fig. 3-10*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| GSK3B | chr3:119540801-119813264 | chr3:119040801-120313264 | chr3:121028235-121295203 | kgp17616951 | kgp4570827 |
| GSTM4 | chr1:110198697-110208123 | chr1:109698697-110708123 | chr1:110000225-110009648 | rs595635 | kgp15760598 |
| HABP4 | chr9:99212413-99253618 | chr9:98712413-99753618 | chr9:98252234-98293439 | kgp18578220 | kgp18630342 |
| HAND1 | chr5:153854531-153857824 | chr5:153354531-154357824 | chr5:153834724-153838017 | kgp7530958 | rs2431184 |
| HAND2 | chr4:174447651-174451378 | chr4:173947651-174951378 | chr4:174684226-174687953 | kgp20847640 | kgp20778226 |
| HARS | chr5:140053489-140070971 | chr5:139553489-140570971 | chr5:140033673-140051155 | rs6874491 | rs12654953 |
| HDAC6 | chrX:48660286-48683380 | chrX:48160286-49183380 | chrX:48545430-48568324 | kgp22835768 | rs2015487 |
| HES1 | chr3:193853930-193856401 | chr3:193353930-194356401 | chr3:195336627-195339090 | kgp11414670 | rs7649259 |
| HLA-A | chr6:1150035-1295564 | chr6:1150035-1295564 | chr6:30018304-30085130 | rs9392258 | rs9391920 |
| HLA-C | chr6:2585738-2671188 | chr6:2585738-2671188 | chr6:2486041-2572197 | rs9392400 | kgp1905253 |
| HLA-DQA2 | chr6:4166320-4171833 | chr6:4166320-4171833 | chr6:3895192-3901275 | kgp17451336 | kgp17218419 |
| HMGB1 | chr13:31032878-31191510 | chr13:30532878-31691510 | chr13:29930878-30089510 | rs1557088 | kgp8054835 |
| HMGN1 | chr21:40714240-40721047 | chr21:40214240-41221047 | chr21:39636110-39643140 | kgp4524272 | kgp8317624 |
| HMGN2 | chr1:26798901-26803133 | chr1:26298901-27303133 | chr1:26671488-26675720 | rs1429936 | kgp8260087 |
| HMMR | chr5:162887516-162918953 | chr5:162387516-163418953 | chr5:162820240-162851525 | kgp9548441 | rs1363073 |
| HMOX2 | chr16:4524718-4560348 | chr16:4024718-5060348 | chr16:4464719-4500349 | kgp16414002 | kgp7117794 |
| HMP19 | chr5:173472723-173536182 | chr5:172972723-174036182 | chr5:173405329-173468788 | kgp22404239 | rs12186684 |
| HOMER2 | chr15:83517728-83621476 | chr15:83017728-84121476 | chr15:81314789-81412477 | rs1267659 | kgp4123064 |
| HRH4 | chr18:22040592-22059921 | chr18:21540592-22559921 | chr18:20294590-20313919 | rs7235445 | kgp7887799 |
| HSP90AA1 | chr14:102547074-102606086 | chr14:102047074-103106086 | chr14:101616827-101675839 | kgp3260354 | kgp19714004 |
| HSPA1A | chr6:31783290-31785719 | chr6:31283290-32285719 | chr6:31891315-31893698 | kgp4709627 | rs9296020 |

*Fig. 3-11*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| HSPA1B | chr6:3089162-3091686 | chr6:3089162-3091686 | chr6:3043109-3045633 | kgp6503147 | kgp5869121 |
| HSPA4 | chr5:132387661-132440709 | chr5:131887661-132940709 | chr5:132415560-132468608 | kgp22352512 | kgp7658141 |
| HSPB1 | chr7:75931874-75933614 | chr7:75431874-76433614 | chr7:75769858-75771546 | kgp4195218 | kgp10852432 |
| HSPB3 | chr5:53751430-53752214 | chr5:53251430-54252214 | chr5:53787201-53787964 | rs16881895 | rs3815916 |
| HSPB8 | chr12:119616594-119632551 | chr12:119116594-120132551 | chr12:118100977-118116934 | kgp18981306 | kgp18823622 |
| HSPBP1 | chr19:55773590-55791751 | chr19:55273590-56291751 | chr19:60465518-60483540 | kgp3134010 | kgp21533588 |
| HSPE1 | chr2:198364720-198368187 | chr2:197864720-198868187 | chr2:198073364-198076416 | kgp9884304 | kgp12004769 |
| HSPH1 | chr13:31710762-31736502 | chr13:31210762-32236502 | chr13:30608762-30634502 | kgp16548529 | kgp16811501 |
| HTATIP | chr11:20385289-20405329 | chr11:19885289-20905329 | chr11:20341865-20361905 | rs2707094 | kgp309631 |
| HTR2B | chr2:231972949-231989824 | chr2:231472949-232489824 | chr2:231681198-231698068 | rs6761068 | rs4973459 |
| HTR2C | chrX:113818550-114144624 | chrX:113318550-114644624 | chrX:113724806-114050880 | rs7055827 | kgp22830072 |
| HTR6 | chr1:19991779-20006055 | chr1:19491779-20506055 | chr1:19864366-19878642 | kgp15912015 | kgp10523409 |
| IGSF4 | chr11:115044345-115375241 | chr11:114544345-115875241 | chr11:114549555-114880451 | rs1607260 | rs7928212 |
| IKBKB | chr8:42128819-42190171 | chr8:41628819-42690171 | chr8:42247985-42309122 | kgp9748756 | kgp3164559 |
| IKBKE | chr1:206643585-206670223 | chr1:206143585-207170223 | chr1:204710418-204736845 | kgp15543770 | kgp6359437 |
| IKBKG | chrX:153770458-153793261 | chrX:153270458-154293261 | chrX:153423652-153446455 | rs633 | kgp22831959 |
| IL4R | chr16:27325250-27376099 | chr16:26825250-27876099 | chr16:27232751-27283600 | kgp11144142 | kgp16489203 |
| IL5RA | chr3:3108007-3152058 | chr3:2608007-3652058 | chr3:3086420-3127031 | kgp10211459 | kgp22835987 |
| IL8RA | chr2:219027567-219031716 | chr2:218527567-219531716 | chr2:218735812-218739961 | kgp14521358 | rs16859170 |
| INSR | chr19:7112265-7294011 | chr19:6612265-7794011 | chr19:7063265-7245011 | kgp5914741 | kgp21453659 |
| IQCB1 | chr3:121488609-121553926 | chr3:120988609-122053926 | chr3:122971299-123036616 | rs11921531 | rs6438722 |

*Fig. 3-12*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| IQGAP1 | chr15:90931472-91045475 | chr15:90431472-91545475 | chr15:88732476-88846479 | kgp1876985 | kgp20028694 |
| IRAK1 | chrX:153275956-153285342 | chrX:152775956-153785342 | chrX:152929150-152938536 | kgp22756383 | rs6643680 |
| IRS1 | chr2:227596032-227663506 | chr2:227096032-228163506 | chr2:227304276-227371750 | kgp12414080 | kgp9391097 |
| IRS4 | chrX:107975726-107979607 | chrX:107475726-108479607 | chrX:107862367-107866295 | kgp22794644 | rs5985712 |
| ITGB2 | chr21:46305867-46348753 | chr21:45805867-46848753 | chr21:45130296-45173181 | kgp13225366 | rs11702782 |
| ITGB3BP | chr1:63906440-63988944 | chr1:63406440-64488944 | chr1:63679049-63761423 | rs1572109 | kgp5171315 |
| ITGB4 | chr17:73717515-73753899 | chr17:73217515-74253899 | chr17:71229110-71265494 | kgp2663142 | kgp4575494 |
| ITGB5 | chr3:124481794-124606144 | chr3:123981794-125106144 | chr3:125964484-126088834 | kgp5281659 | kgp17765518 |
| ITPKA | chr15:41786055-41795757 | chr15:41286055-42295757 | chr15:39573413-39583039 | kgp22747722 | kgp10507061 |
| ITPKB | chr1:226819390-226926876 | chr1:226319390-227426876 | chr1:224886013-224991987 | rs1219671 | rs7519099 |
| ITPR3 | chr6:33589155-33664348 | chr6:33089155-34164348 | chr6:33697138-33772326 | rs3117030 | kgp4515850 |
| IXL | chr19:39881963-39891203 | chr19:39381963-40391203 | chr19:44573803-44583043 | kgp986483 | kgp6117029 |
| JAK1 | chr1:65298905-65432619 | chr1:64798905-65932619 | chr1:65071493-65205207 | kgp8976721 | kgp9745392 |
| KCNE1 | chr21:35818987-35884573 | chr21:35318987-36384573 | chr21:34740857-34806443 | kgp13187567 | kgp5041106 |
| KCNE4 | chr2:223916861-223920355 | chr2:223416861-224420355 | chr2:223625105-223628599 | kgp14948218 | kgp14631899 |
| KCNH2 | chr7:150642043-150675402 | chr7:150142043-151175402 | chr7:150272981-150305947 | kgp13542655 | kgp7948285 |
| KCNJ2 | chr17:68164813-68176183 | chr17:67664813-68676183 | chr17:65676408-65687778 | rs6501341 | kgp2814913 |
| KCNN2 | chr5:113698015-113832197 | chr5:113198015-114332197 | chr5:113725914-113860096 | kgp9619904 | rs10056549 |
| KCNN4 | chr19:44270684-44285409 | chr19:43770684-44785409 | chr19:48962524-48977249 | rs6509074 | kgp21388839 |
| KCNQ2 | chr20:62037541-62103993 | chr20:61537541-62603993 | chr20:61507985-61574437 | rs16983364 | kgp19265466 |
| KCNQ3 | chr8:133133104-133493004 | chr8:132633104-133993004 | chr8:133210437-133562186 | kgp20244043 | rs4074676 |

*Fig. 3-13*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| KCNQ5 | chr6:73331570-73908573 | chr6:72831570-74408573 | chr6:73388555-73962301 | kgp7790415 | rs9446983 |
| KDR | chr4:55944425-55991762 | chr4:55444425-56491762 | chr4:55639405-55686519 | kgp11624145 | rs10022874 |
| KIAA1377 | chr11:101785745-101871793 | chr11:101285745-102371793 | chr11:101290955-101377003 | kgp12804311 | rs9667864 |
| KIAA1549 | chr7:138516126-138666064 | chr7:138016126-139166064 | chr7:138166666-138255110 | rs11769851 | kgp10209774 |
| KIF3A | chr5:132028322-132073265 | chr5:131528322-132573265 | chr5:132056221-132101164 | rs3805685 | rs4958109 |
| KIT | chr4:55524094-55606881 | chr4:55024094-56106881 | chr4:55218851-55301638 | kgp4467115 | kgp9403472 |
| KLHL20 | chr1:173684079-173755840 | chr1:173184079-174255840 | chr1:171950702-172022463 | rs13374515 | kgp5594942 |
| KLHL3 | chr5:136953188-137071779 | chr5:136453188-137571779 | chr5:136981087-137099678 | rs2966736 | rs10040989 |
| KLK10 | chr19:51515999-51523431 | chr19:51015999-52023431 | chr19:56207811-56215243 | kgp9495392 | kgp21503250 |
| KRAS | chr12:25358179-25403854 | chr12:24858179-25903854 | chr12:25249446-25295121 | kgp19038229 | kgp1316534 |
| KRT10 | chr17:38974368-38978863 | chr17:38474368-39478863 | chr17:36227894-36232373 | kgp7164026 | kgp6621387 |
| KRT18 | chr12:53342654-53346685 | chr12:52842654-53846685 | chr12:51628921-51632952 | rs406857 | rs11834179 |
| LCK | chr1:32716839-32751766 | chr1:32216839-33251766 | chr1:32489426-32524353 | rs12037400 | kgp6229337 |
| LGALS2 | chr22:37966252-37976024 | chr22:37466252-38476024 | chr22:36296198-36305970 | kgp14999686 | rs8135665 |
| LMNA | chr1:156052368-156108548 | chr1:155552368-156608548 | chr1:154318992-154375172 | kgp11675488 | rs12408758 |
| LMNB1 | chr5:126112314-126172712 | chr5:125612314-126672712 | chr5:126140731-126200608 | kgp5014465 | kgp22418220 |
| LOC100133669 | chr8:144063447-144099807 | chr8:143563447-144599807 | chr8:144134822-144171182 | rs10875483 | kgp10850793 |
| LOC154092 | chr6:134758853-134825158 | chr6:134258853-135325158 | chr6:134800546-134866851 | kgp11630779 | kgp22793805 |
| LOC339290 | chr18:5238098-5246505 | chr18:4738098-5746505 | chr18:5222874-5228525 | kgp5290787 | kgp989326 |
| LOC340357 | chr8:12623570-12668910 | chr8:12123570-13168910 | chr8:12667941-12713281 | kgp22754906 | kgp20305069 |
| LOC400604 | chr17:48944039-48945732 | chr17:48444039-49445732 | chr17:46299038-46300731 | kgp11815481 | kgp10163248 |

*Fig. 3-14*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| LOC613126 | chr7:91763906-91771854 | chr7:91263906-92271854 | chr7:91601842-91609790 | kgp13774218 | rs3731343 |
| LTB4R | chr14:24780704-24787242 | chr14:24280704-25287242 | chr14:23850544-23855992 | kgp19673807 | rs8007336 |
| LTF | chr3:46477495-46526724 | chr3:45977495-47026724 | chr3:46452499-46501728 | kgp17788490 | kgp1176589 |
| LXN | chr3:158384202-158390482 | chr3:157884202-158890482 | chr3:159866899-159873176 | rs6764092 | kgp7955381 |
| LYST | chr1:235824344-236030220 | chr1:235324344-236530220 | chr1:233890968-234096843 | rs2295815 | kgp9270301 |
| MAD2L1BP | chr6:43597278-43608688 | chr6:43097278-44108688 | chr6:43705256-43716666 | rs1537638 | kgp1522302 |
| MAGED1 | chrX:51546154-51645450 | chrX:51046154-52145450 | chrX:51562894-51662190 | kgp22779908 | kgp22784919 |
| MAP1A | chr15:43809805-43823818 | chr15:43309805-44323818 | chr15:41597097-41611110 | kgp12180163 | kgp10318377 |
| MAP1LC3A | chr20:33134691-33148149 | chr20:32634691-33648149 | chr20:32598352-32611810 | kgp19388199 | kgp5639543 |
| MAP2K1 | chr15:66679210-66783882 | chr15:66179210-67283882 | chr15:64466264-64570936 | kgp19795142 | kgp382480 |
| MAP2K4 | chr17:11924134-12047051 | chr17:11424134-12547051 | chr17:11864859-11987776 | rs16944942 | rs9915536 |
| MAP2K5 | chr15:67835020-68099455 | chr15:67335020-68599455 | chr15:65622074-65886506 | kgp19854650 | kgp20006731 |
| MAP3K10 | chr19:40697650-40721482 | chr19:40197650-41221482 | chr19:45389490-45413314 | kgp6290284 | rs2561531 |
| MAP3K3 | chr17:61699774-61773670 | chr17:61199774-62273670 | chr17:59053506-59127402 | kgp14048701 | kgp5230870 |
| MAP3K7 | chr6:91225352-91296907 | chr6:90725352-91796907 | chr6:91282073-91353628 | rs9451316 | rs9451576 |
| MAP3K7IP1 | chr22:39745953-39827887 | chr22:39245953-40327887 | chr22:38075899-38157833 | kgp10431646 | rs137981 |
| MAP3K7IP2 | chr6:149639062-149732747 | chr6:149139062-150232747 | chr6:149680755-149774440 | kgp9485571 | kgp9110056 |
| MAP3K8 | chr10:30722949-30750762 | chr10:30222949-31250762 | chr10:30762871-30790767 | kgp22034763 | kgp11496819 |
| MAP6 | chr11:75297962-75379479 | chr11:74797962-75879479 | chr11:74975610-75057127 | rs11236323 | kgp695651 |
| MAPK14 | chr6:35995453-36079013 | chr6:35495453-36579013 | chr6:36103550-36186513 | rs4711420 | kgp10854130 |
| MAPK3 | chr16:30125425-30134630 | chr16:29625425-30634630 | chr16:30032926-30042131 | kgp11463254 | kgp2105557 |

*Fig. 3-15*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| MARCKS | chr6:114178526-114184652 | chr6:113678526-114684652 | chr6:114285219-114291345 | kgp17187839 | kgp1113238 |
| MBP | chr18:74690788-74844774 | chr18:74190788-75344774 | chr18:72819776-72973762 | kgp5208536 | rs12960102 |
| MCC | chr5:112357795-112824527 | chr5:111857795-113324527 | chr5:112385694-112852426 | kgp22530369 | kgp22589538 |
| MGMT | chr10:131265453-131565783 | chr10:130765453-132065783 | chr10:131155455-131455358 | kgp11264334 | kgp1514587 |
| MIP | chr12:56843285-56848435 | chr12:56343285-57348435 | chr12:55130150-55134696 | kgp19052399,rs11834873 | kgp18750923 |
| MLF2 | chr12:6857935-6876641 | chr12:6357935-7376641 | chr12:6728196-6746902 | kgp18998724 | rs1001653 |
| MLLT3 | chr9:20344967-20622514 | chr9:19844967-21122514 | chr9:20334967-20612514 | kgp18504776 | rs1016129 |
| MNAT1 | chr14:61201458-61435398 | chr14:60701458-61935398 | chr14:60271222-60505151 | kgp5293246 | rs7142051 |
| MPHOSPH6 | chr16:82181766-82203829 | chr16:81681766-82703829 | chr16:80739267-80761330 | kgp406017 | rs3852734 |
| MRPS12 | chr19:39421347-39423659 | chr19:38921347-39923659 | chr19:44113187-44115499 | kgp21348524 | kgp21366907 |
| MRPS6 | chr21:35445822-35515334 | chr21:34945822-36015334 | chr21:34367692-34437204 | kgp11037760 | rs2834555 |
| MRVI1 | chr11:10594637-10715535 | chr11:10094637-11215535 | chr11:10551213-10672111 | rs7946995 | kgp11739225 |
| MSN | chrX:64887510-64961793 | chrX:64387510-65461793 | chrX:64804235-64878518 | rs7887705 | kgp22760405 |
| MYF5 | chr12:81110707-81113447 | chr12:80610707-81613447 | chr12:79634838-79637578 | rs12313692 | kgp5599463 |
| MYF6 | chr12:81101407-81103256 | chr12:80601407-81603256 | chr12:79625576-79627382 | rs7954738 | rs7972054 |
| MYLK | chr3:123331142-123603149 | chr3:122831142-124103149 | chr3:124813832-125085839 | kgp9270532 | rs510324 |
| MYO10 | chr5:16662015-16936385 | chr5:16162015-17436385 | chr5:16715015-16989385 | kgp22359577 | kgp12241403 |
| MYO7A | chr11:76839309-76926286 | chr11:76339309-77426286 | chr11:76516957-76603934 | rs2186677 | kgp304899 |
| MYO9B | chr19:17186590-17324104 | chr19:16686590-17824104 | chr19:17047595-17185104 | kgp21430919 | kgp4164870 |
| MYOC | chr1:171604556-171621823 | chr1:171104556-172121823 | chr1:169871179-169888396 | rs1736563 | kgp1482992 |
| MYOD1 | chr11:17741109-17743678 | chr11:17241109-18243678 | chr11:17697685-17700254 | kgp10809253 | rs12285714 |

*Fig. 3-16*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| MYOG | chr1:203052256-203055377 | chr1:202552256-203555377 | chr1:201318879-201322000 | rs4950858 | rs2798625 |
| MYOT | chr5:137022409-137223540 | chr5:136522409-137723540 | chr5:137231472-137251440 | kgp22294838 | kgp5559791 |
| MYT1L | chr2:1792884-2335045 | chr2:1292884-2835045 | chr2:1771891-2314052 | kgp356515 | kgp7720594 |
| NACA | chr12:57106210-57119326 | chr12:56606210-57619326 | chr12:55392477-55405593 | rs4759218 | kgp11483848 |
| NCALD | chr8:102698769-103137135 | chr8:102198769-103637135 | chr8:102767945-103206311 | kgp11277997 | rs16869664 |
| NCF1C | chr7:74572383-74587816 | chr7:74072383-75087816 | chr7:74210380-74225695 | kgp7635479 | kgp954065 |
| NCL | chr2:232319458-232329205 | chr2:231819458-232829205 | chr2:232027702-232037449 | rs13415867 | kgp12447433 |
| NCOR2 | chr12:124808956-125052010 | chr12:124308956-125552010 | chr12:123397062-123617963 | rs11057368 | kgp12274490 |
| NEUROD1 | chr2:182540832-182545392 | chr2:182040832-183045392 | chr2:182249438-182253626 | kgp7038037 | rs12612546 |
| NF2 | chr22:29999544-30094589 | chr22:29499544-30594589 | chr22:28329544-28424589 | kgp15024372 | kgp10478391 |
| NFASC | chr1:204797781-204991950 | chr1:204297781-205491950 | chr1:203064445-203258572 | rs12044614 | kgp11817505 |
| NFATC1 | chr18:77155771-77289323 | chr18:76655771-77789323 | chr18:75256759-75390311 | rs12150804 | kgp11226294 |
| NFATC2 | chr20:50007764-50179168 | chr20:49507764-50679168 | chr20:49441171-49612777 | rs761240 | kgp19325060 |
| NFKB2 | chr10:104154228-104162281 | chr10:103654228-104662281 | chr10:104144218-104152271 | kgp11777223 | rs7897654 |
| NFKBIB | chr19:39390339-39399534 | chr19:38890339-39899534 | chr19:44082454-44091374 | kgp21403480 | kgp4374047 |
| NFKBIE | chr6:44225902-44233525 | chr6:43725902-44733525 | chr6:44333880-44341503 | rs866236 | kgp11221406 |
| NGB | chr14:77731833-77737655 | chr14:77231833-78237655 | chr14:76801586-76807408 | kgp4649405 | rs11622713 |
| NHP2L1 | chr22:42069936-42084913 | chr22:41569936-42584913 | chr22:40399882-40414859 | kgp22806642 | kgp282841 |
| NOS1 | chr12:117645946-117799607 | chr12:117145946-118299607 | chr12:116135361-116283965 | rs11068156 | kgp763518 |
| NP | chr14:20937541-20945248 | chr14:20437541-21445248 | chr14:20007381-20015088 | kgp8768601 | kgp19427360 |
| NPHP1 | chr2:110880913-110962639 | chr2:110380913-111462639 | chr2:110238202-110319928 | rs10496434 | kgp3845148 |

*Fig. 3-17*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| NRBP1 | chr2:27650656-27665124 | chr2:27150656-28165124 | chr2:27504160-27518628 | kgp14600002 | kgp14258181 |
| NRGN | chr11:124609828-124617102 | chr11:124109828-125117102 | chr11:124115038-124122312 | kgp483624 | kgp5783287 |
| NUCB1 | chr19:49403306-49426540 | chr19:48903306-49926540 | chr19:54095380-54118339 | kgp282275 | kgp9015400 |
| OBSCN | chr1:228395860-228566575 | chr1:227895860-229066575 | chr1:226462483-226633198 | kgp22809391 | kgp706951 |
| OGG1 | chr3:9791627-9808353 | chr3:9291627-10308353 | chr3:9765704-9783342 | rs17744749 | rs1642974 |
| OPRK1 | chr8:54138275-54164194 | chr8:53638275-54664194 | chr8:54300828-54326747 | kgp11808605 | kgp7186378 |
| OPRM1 | chr6:154360442-154568001 | chr6:153860442-155068001 | chr6:154402135-154609693 | kgp22790919 | kgp7491549 |
| P2RY1 | chr3:152552735-152555843 | chr3:152052735-153055843 | chr3:154035425-154038533 | rs4472028 | kgp1812100 |
| PA2G4 | chr12:56498102-56507694 | chr12:55998102-57007694 | chr12:54784369-54793961 | kgp18842835 | rs12308290 |
| PABPC4 | chr1:40026484-40042521 | chr1:39526484-40542521 | chr1:39799074-39815003 | rs6692557 | rs6681804 |
| PAEP | chr9:138453603-138458622 | chr9:137953603-138958622 | chr9:137593424-137598443 | kgp4360258 | rs11103302 |
| PAFAH1B1 | chr17:2496922-2588909 | chr17:1996922-3088909 | chr17:2443672-2535659 | kgp13951566 | kgp4861640 |
| PAM | chr5:102201526-102366808 | chr5:101701526-102866808 | chr5:102229425-102393316 | rs10075318 | kgp4660412 |
| PARD6A | chr16:67694850-67696681 | chr16:67194850-68196681 | chr16:66252351-66254182 | kgp16268099,rs1106304 | kgp16328412 |
| PARD6B | chr20:49348080-49370278 | chr20:48848080-49870278 | chr20:48781487-48803685 | kgp19335956 | kgp19356310 |
| PARD6G | chr18:77915116-78005397 | chr18:77415116-78505397 | chr18:76016105-76106388 | kgp15973881 | rs12960632 |
| PAWR | chr12:79985744-80084790 | chr12:79485744-80584790 | chr12:78509875-78608921 | rs2950386 | kgp19124809 |
| PCNT | chr21:47744035-47865682 | chr21:47244035-48365682 | chr21:46568463-46690110 | kgp13165624 | rs10483083 |
| PCP4 | chr21:41239346-41301322 | chr21:40739346-41801322 | chr21:40161216-40223192 | kgp5198475 | rs2837624 |
| PDC | chr1:186412697-186430239 | chr1:185912697-186930239 | chr1:184679337-184696862 | kgp15446019 | kgp15206197 |
| PDCD8 | chrX:129263338-129299861 | chrX:128763338-129799861 | chrX:129091019-129127542 | rs3131260 | kgp22747824 |

*Fig. 3-18*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| PDCL | chr9:125580375-125590935 | chr9:125080375-126090935 | chr9:124620443-124630661 | kgp11050939 | rs7341862 |
| PDE1A | chr2:183007182-183387507 | chr2:182507182-183887507 | chr2:182715427-183095498 | kgp205462 | kgp14271078 |
| PDE4DIP | chr1:144676436-145076186 | chr1:144176436-145576186 | chr1:143388229-143787436 | rs7548928 | kgp15506281 |
| PDE6D | chr2:232597146-232645974 | chr2:232097146-233145974 | chr2:232305390-232354218 | kgp448503 | rs11686328 |
| PDIA2 | chr16:330605-337209 | chr16:1-837209 | chr16:270606-277210 | kgp4861413 | rs3817833 |
| PDLIM7 | chr5:176910394-176924602 | chr5:176410394-177424602 | chr5:176843000-176857208 | kgp10474318 | kgp9286031 |
| PDPK1 | chr16:2587969-2653189 | chr16:2087969-3153189 | chr16:2527970-2593190 | rs11876 | rs2741932 |
| PEA15 | chr1:160175124-160185162 | chr1:159675124-160685162 | chr1:158441750-158451786 | kgp15388960 | kgp4800109 |
| PELO | chr5:52083773-52098452 | chr5:51583773-52598452 | chr5:52119530-52134209 | kgp7417119 | kgp22419632 |
| PFDN1 | chr5:139624634-139682689 | chr5:139124634-140182689 | chr5:139604818-139662873 | kgp2976589 | rs3733707 |
| PFDN4 | chr20:52824501-52836492 | chr20:52324501-53336492 | chr20:52257908-52269899 | kgp2671049 | kgp19401284 |
| PFDN5 | chr12:53689234-53693234 | chr12:53189234-54193234 | chr12:51975501-51979501 | kgp9320945 | kgp18934893 |
| PFKFB2 | chr1:207207760-207254368 | chr1:206707760-207754368 | chr1:205293242-205320991 | rs6666087 | kgp15524399 |
| PFN1 | chr17:4848946-4851825 | chr17:4348946-5351825 | chr17:4789691-4792570 | kgp459103 | rs11869909 |
| PGK1 | chrX:77359665-77382324 | chrX:76859665-77882324 | chrX:77246321-77268980 | kgp22784498 | kgp22747606 |
| PHKA1 | chrX:71798663-71934029 | chrX:71298663-72434029 | chrX:71715388-71850754 | kgp22784635 | kgp22830838,rs5982097 |
| PHKA2 | chrX:18910415-19002480 | chrX:18410415-19502480 | chrX:18820336-18912401 | kgp22820040 | kgp22735291 |
| PHKG1 | chr7:56148674-56160689 | chr7:55648674-56660689 | chr7:56116168-56128183 | rs4947514 | kgp13251786 |
| PIAS4 | chr19:4007748-4038067 | chr19:3507748-4538067 | chr19:3958748-3989067 | kgp21496330 | rs966384 |
| PIK3C3 | chr18:39535198-39661446 | chr18:39035198-40161446 | chr18:37789196-37915444 | kgp16093917 | kgp16001617 |
| PIK3CG | chr7:106505722-106547592 | chr7:106005722-107047592 | chr7:106292958-106334828 | kgp13830163 | kgp58259 |

*Fig. 3-19*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| PLCB2 | chr15:40580097-40600174 | chr15:40080097-41100174 | chr15:38367389-38387466 | rs594863 | kgp19835274 |
| PLCD1 | chr3:38048986-38071154 | chr3:37548986-38571154 | chr3:38023990-38046137 | rs155528 | kgp8999289 |
| PLD1 | chr3:171318194-171528504 | chr3:170818194-172028504 | chr3:172801338-173011198 | kgp17613784 | kgp17918658 |
| PLD2 | chr17:4710395-4726727 | chr17:4210395-5226727 | chr17:4657377-4673694 | rs9915202 | kgp10024037 |
| PLEKHA4 | chr19:49340353-49371884 | chr19:48840353-49871884 | chr19:54032166-54063670 | kgp21466232 | kgp7036888 |
| PLK1 | chr16:23690200-23701688 | chr16:23190200-24201688 | chr16:23597701-23609189 | kgp6012631 | kgp22747639 |
| POLA2 | chr11:65029431-65065088 | chr11:64529431-65565088 | chr11:64786007-64821664 | rs637332 | rs12800057 |
| POLB | chr8:42195972-42229331 | chr8:41695972-42729331 | chr8:42315186-42348470 | kgp20057794 | kgp20541648 |
| POLR2C | chr16:57496550-57505921 | chr16:56996550-58005921 | chr16:56054051-56063422 | kgp12245826 | rs3888264 |
| POLR3F | chr20:18448032-18465286 | chr20:17948032-18965286 | chr20:18396032-18413286 | kgp4834782 | kgp4034265 |
| PPARA | chr22:46546498-46639653 | chr22:46046498-47139653 | chr22:44925162-45018317 | kgp1216941 | kgp15069036 |
| PPEF1 | chrX:18709044-18846034 | chrX:18209044-19346034 | chrX:18618965-18755955 | kgp22764965 | kgp22802655 |
| PPEF2 | chr4:76781025-76823681 | chr4:76281025-77323681 | chr4:77000049-77042705 | kgp3982074 | kgp4693685 |
| PPM1A | chr14:60712469-60765805 | chr14:60212469-61265805 | chr14:59782222-59835559 | kgp19716116 | kgp5849461 |
| PPP1R13B | chr14:104200087-104313927 | chr14:103700087-104813927 | chr14:103269840-103383680 | kgp19713395 | kgp19494408 |
| PPP1R14A | chr19:38741876-38747231 | chr19:38241876-39247231 | chr19:43433716-43439012 | kgp7541975 | kgp4659188 |
| PPP3CA | chr4:101944586-102268628 | chr4:101444586-102768628 | chr4:102163609-102487376 | kgp4575683 | kgp7268908 |
| PPYR1 | chr10:47083533-47088320 | chr10:46583533-47588320 | chr10:46503539-46508326 | kgp507194 | rs11259820 |
| PQBP1 | chrX:48755194-48760422 | chrX:48255194-49260422 | chrX:48640138-48645364 | rs28833838 | rs2015487 |
| PREI3 | chr2:198364721-198418423 | chr2:197864721-198918423 | chr2:198072966-198126668 | kgp9884304 | kgp9480848 |
| PRG2 | chr11:57154833-57191532 | chr11:56654833-57691532 | chr19:763517-772952 | kgp13043879 | kgp12981403 |

*Fig. 3-20*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| PRKACA | chr19:14202506-14228559 | chr19:13702506-14728559 | chr19:14063506-14089559 | kgp6577295 | kgp559477 |
| PRKCB1 | chr16:23847300-24231932 | chr16:23347300-24731932 | chr16:23754801-24139433 | rs7190829 | rs2343354 |
| PRKCD | chr3:53195222-53226733 | chr3:52695222-53726733 | chr3:53170262-53201773 | rs11715796 | kgp8788109 |
| PRKCG | chr19:54385466-54410901 | chr19:53885466-54910901 | chr19:59077278-59102713 | kgp1393848 | kgp11043930 |
| PRKCI | chr3:169940219-170023770 | chr3:169440219-170523770 | chr3:171422913-171506464 | kgp17942550 | rs12485248 |
| PRKCZ | chr1:1981908-2116834 | chr1:1481908-2616834 | chr1:1971768-2106694 | kgp15756715 | kgp907107 |
| PRKG1 | chr10:52750910-54058110 | chr10:52250910-54558110 | chr10:52420950-53725280 | kgp22035660 | rs7923443 |
| PSCD2 | chr19:48972465-48985571 | chr19:48472465-49485571 | chr19:53664277-53677383 | rs16981057 | rs5464 |
| PSEN2 | chr1:227058272-227083804 | chr1:226558272-227583804 | chr1:225124895-225150427 | rs3219110 | kgp1301981,rs3014274 |
| PSG9 | chr19:43757434-43773682 | chr19:43257434-44273682 | chr19:48449274-48465522 | kgp21418993 | kgp7929858 |
| PSMA2 | chr7:42956461-42971805 | chr7:42456461-43471805 | chr7:42922986-42938330 | kgp13636285 | kgp8523923 |
| PSMD2 | chr3:184017021-184026840 | chr3:183517021-184526840 | chr3:185499715-185509534 | kgp4284536 | rs11711955 |
| PSPC1 | chr13:20277008-20357159 | chr13:19777008-20857159 | chr13:19146895-19255083 | kgp249471 | kgp2992302 |
| PTGIR | chr19:47123724-47128354 | chr19:46623724-47628354 | chr19:51815564-51820194 | kgp21532737 | rs184290 |
| PTMAP7 | chr2:232573235-232578250 | chr2:232073235-233078250 | chr2:232281479-232286494 | kgp6878597 | kgp14464906 |
| PTP4A1 | chr6:64231650-64293489 | chr6:63731650-64793489 | chr6:64289609-64351448 | rs4710239 | kgp357802 |
| PTP4A3 | chr8:142432006-142441620 | chr8:141932006-142941620 | chr8:142501188-142510802 | rs12678285 | kgp3296894 |
| PTPN11 | chr12:112856535-112947717 | chr12:112356535-113447717 | chr12:111340918-111432100 | kgp22816522 | rs1293743 |
| PTPN12 | chr7:77166772-77269388 | chr7:76666772-77769388 | chr7:77004770-77107322 | kgp4690058 | rs3807707 |
| PTPN6 | chr12:7055739-7070479 | chr12:6555739-7570479 | chr12:6926000-6940740 | kgp18831609 | kgp18845056 |
| PTPRA | chr20:2844824-3019315 | chr20:2344824-3519315 | chr20:2792824-2967315 | kgp725112 | rs2853218 |

*Fig. 3-21*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| PTPRJ | chr11:48002109-48192394 | chr11:47502109-48692394 | chr11:47958685-48148970 | kgp11833163 | kgp12755942 |
| PTPRS | chr19:5158505-5340814 | chr19:4658505-5840814 | chr19:5109505-5291814 | kgp6271833 | kgp4407357 |
| PTPRU | chr1:29563027-29653325 | chr1:29063027-30153325 | chr1:29435633-29525903 | rs12068075 | kgp9719744 |
| RAB27A | chr15:55495163-55582013 | chr15:54995163-56082013 | chr15:53283091-53369293 | kgp19829554 | rs11631355 |
| RAB3B | chr1:52373627-52456436 | chr1:51873627-52956436 | chr1:52157422-52228936 | kgp22830492 | rs10493168 |
| RAB5A | chr3:19988571-20026667 | chr3:19488571-20526667 | chr3:19963762-20001647 | rs1348231 | kgp8738867 |
| RAB8B | chr15:63481727-63559973 | chr15:62981727-64059973 | chr15:61268780-61347026 | kgp20037308 | rs17773778 |
| RABAC1 | chr19:42460832-42463528 | chr19:41960832-42963528 | chr19:47152675-47155311 | kgp22776019 | kgp2186225 |
| RAC1 | chr7:6414125-6443598 | chr7:5914125-6943598 | chr7:6380650-6410123 | kgp13594313 | kgp2338008 |
| RACGAP1 | chr12:50382944-50419307 | chr12:49882944-50919307 | chr12:48669211-48705574 | rs12317050 | kgp2525417 |
| RAF1 | chr3:12625099-12705700 | chr3:12125099-13205700 | chr3:12600099-12680700 | kgp17997932 | kgp3531880 |
| RALB | chr2:120997639-121052286 | chr2:120497639-121552286 | chr2:120726883-120768756 | rs17661862 | kgp5177758 |
| RASSF1 | chr3:50367216-50378367 | chr3:49867216-50878367 | chr3:50342220-50353371 | kgp8151957 | kgp7341826 |
| RBM23 | chr14:23369853-23388396 | chr14:22869853-23888396 | chr14:22439693-22458236 | rs3811239 | kgp128686 |
| RBM5 | chr3:50126340-50156397 | chr3:49626340-50656397 | chr3:49952595-50112488 | kgp22823256 | rs375544 |
| RCVRN | chr17:9801026-9808684 | chr17:9301026-10308684 | chr17:9741751-9749409 | rs8082538 | kgp2141837 |
| REL | chr2:61108751-61150178 | chr2:60608751-61650178 | chr2:60962255-61003682 | kgp8245960 | kgp14294452 |
| RELA | chr11:65421066-65430443 | chr11:64921066-65930443 | chr11:65177647-65186951 | kgp6667058 | kgp4478491 |
| RELB | chr19:45504706-45541456 | chr19:45004706-46041456 | chr19:50196551-50233292 | kgp9280266 | kgp9663255 |
| RFC5 | chr12:118454505-118470042 | chr12:117954505-118970042 | chr12:116938892-116954422 | rs11068526 | kgp19024344 |
| RGS10 | chr10:121259338-121302222 | chr10:120759338-121802222 | chr10:121249328-121292212 | kgp21619652 | kgp5105745 |

*Fig. 3-22*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| RGS13 | chr1:192605267-192629440 | chr1:192105267-193129440 | chr1:190871904-190896012 | rs11806786 | kgp1816960 |
| RGS14 | chr5:176784843-176799599 | chr5:176284843-177299599 | chr5:176717449-176732205 | rs1000144 | kgp11311419 |
| RGS16 | chr1:182567757-182573548 | chr1:182067757-183073548 | chr1:180834380-180840171 | kgp15787070 | kgp4798391 |
| RGS18 | chr1:192127591-192154945 | chr1:191627591-192654945 | chr1:190394214-190421568 | rs1338034 | kgp6525246 |
| RGS19 | chr20:62704534-62711324 | chr20:62204534-63211324 | chr20:62174978-62181768 | rs1630157 | kgp19264714 |
| RGS4 | chr1:163038395-163046592 | chr1:162538395-163546592 | chr1:161305019-161313216 | kgp15623644 | kgp15384575 |
| RGS5 | chr1:163112088-163291581 | chr1:162612088-163791581 | chr1:161378720-161439496 | kgp15331781 | kgp2554099 |
| RGS7 | chr1:240938816-241520478 | chr1:240438816-242020478 | chr1:239005439-239587101 | rs16839692 | kgp15345284 |
| RHO | chr3:129247481-129254187 | chr3:128747481-129754187 | chr3:130730171-130736877 | kgp12236862 | kgp11280524 |
| RHOH | chr4:40198526-40246281 | chr4:39698526-40746281 | chr4:39874921-39922676 | rs3912392 | rs17513557 |
| RIC8A | chr11:208529-215110 | chr11:1-715110 | chr11:198529-205110 | kgp9815230 | rs11246286 |
| RIC8B | chr12:107168398-107283094 | chr12:106668398-107783094 | chr12:105692528-105807224 | kgp7665070 | kgp2084662 |
| RIOK3 | chr18:21032786-21063099 | chr18:20532786-21563099 | chr18:19286784-19317097 | kgp4053645 | kgp16177785 |
| RIPK1 | chr6:3064121-3115421 | chr6:2564121-3615421 | chr6:3009120-3060420 | rs17208835 | kgp17120238 |
| RIPK2 | chr8:90769974-90803292 | chr8:90269974-91303292 | chr8:90839109-90872433 | rs7813237 | rs2214416 |
| RIT1 | chr1:155867600-155881177 | chr1:155367600-156381177 | chr1:154134224-154147801 | kgp10974682 | rs12022607 |
| RIT2 | chr18:40323191-40695657 | chr18:39823191-41195657 | chr18:38577189-38949655 | rs6507465 | kgp3440940 |
| RNF10 | chr12:120972131-121015397 | chr12:120472131-121515397 | chr12:119456514-119499780 | kgp19140786 | kgp19017203 |
| RNF11 | chr1:51701944-51739119 | chr1:51201944-52239119 | chr1:51474532-51511707 | kgp4558813 | kgp7772065 |
| RPL10 | chrX:153627678-153632038 | chrX:153127678-154132038 | chrX:153279911-153283874 | rs2071127 | rs4074307 |
| RPL12 | chr9:130209952-130213711 | chr9:129709952-130713711 | chr9:129249775-129253505 | kgp11622632 | rs3802355 |

*Fig. 3-23*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| RPL37A | chr2:217363519-217366188 | chr2:216863519-217866188 | chr2:217071764-217074433 | kgp2247391 | kgp7636371 |
| RRAD | chr16:66955581-66959439 | chr16:66455581-67459439 | chr16:65513082-65516940 | kgp16522328 | kgp16305055 |
| RTN4 | chr2:55199326-55277734 | chr2:54699326-55777734 | chr2:55052830-55131238 | kgp3749465 | rs3748945 |
| S100A8 | chr1:153362507-153363664 | chr1:152862507-153863664 | chr1:151629131-151630173 | rs6587709 | kgp4686042 |
| SAT1 | chrX:23801274-23804327 | chrX:23301274-24304327 | chrX:23711224-23714248 | kgp22758306 | kgp22759648 |
| SCN8A | chr12:51985019-52202299 | chr12:51485019-52702299 | chr12:50271286-50488566 | rs7979705 | kgp7295633 |
| SDC1 | chr2:20400557-20425194 | chr2:19900557-20925194 | chr2:20264038-20288675 | kgp14253812 | kgp8380770 |
| SDC2 | chr8:97505881-97624037 | chr8:97005881-98124037 | chr8:97575057-97693213 | rs1421221 | kgp1305908 |
| SDC4 | chr20:43953928-43977064 | chr20:43453928-44477064 | chr20:43387342-43410478 | rs8116486 | kgp19276986 |
| SDCBP | chr8:59465727-59495419 | chr8:58965727-59995419 | chr8:59628281-59657973 | rs954172 | kgp20217944 |
| SDCBP2 | chr20:1290554-1373816 | chr20:790554-1873816 | chr20:1238620-1257838 | kgp9852208 | kgp10348674 |
| SDPR | chr2:192699031-192712006 | chr2:192199031-193212006 | chr2:192407280-192420226 | kgp6263901 | kgp14266860 |
| SELENBP1 | chr1:151336779-151345164 | chr1:150836779-151845164 | chr1:149603403-149611788 | rs12406660 | rs6684312 |
| SEMG1 | chr20:43835637-43838414 | chr20:43335637-44338414 | chr20:43269087-43271823 | rs6094023 | rs6094202 |
| SEMG2 | chr20:43835637-43853099 | chr20:43335637-44353099 | chr20:43269087-43286513 | rs6094023 | rs6017667 |
| SEPT4 | chr17:56597610-56618179 | chr17:56097610-57118179 | chr17:53952614-53964410 | kgp1250021 | rs34058624 |
| SETDB1 | chr1:150898814-150937220 | chr1:150398814-151437220 | chr1:149165511-149203837 | rs12759551 | kgp1978717 |
| SGOL1 | chr3:20202084-20227724 | chr3:19702084-20727724 | chr3:20177088-20202687 | kgp9539943 | kgp18040639 |
| SGOL2 | chr2:201390864-201448818 | chr2:200890864-201948818 | chr2:201099186-201156750 | kgp9074393 | kgp14634946 |
| SH2B3 | chr12:111843751-111889427 | chr12:111343751-112389427 | chr12:110328134-110373810 | kgp7682395 | kgp10017505 |
| SHC1 | chr1:154934773-154946959 | chr1:154434773-155446959 | chr1:153201397-153213464 | kgp11196367 | kgp15752431 |

*Fig. 3-24*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| SIRT2 | chr19:39369194-39390502 | chr19:38869194-39890502 | chr19:44061039-44082201 | kgp21526327 | kgp9511717 |
| SLC1A1 | chr9:4490426-4587469 | chr9:3990426-5087469 | chr9:4480443-4577469 | kgp7074545 | kgp9946842 |
| SLC6A9 | chr1:44457171-44497134 | chr1:43957171-44997134 | chr1:44234741-44269721 | rs6687571 | rs6672462 |
| SLC9A3R1 | chr17:72744762-72765499 | chr17:72244762-73265499 | chr17:70256378-70277089 | kgp14032523 | kgp14006779 |
| SMAD3 | chr15:67358194-67487533 | chr15:66858194-67987533 | chr15:65145248-65274587 | kgp1676807 | kgp19813377 |
| SMAD5 | chr5:135468535-135518422 | chr5:134968535-136018422 | chr5:135496434-135546321 | kgp5717445 | kgp8569495 |
| SMN2 | chr5:70220767-70248842 | chr5:69720767-70748842 | chr5:70256523-70284594 | rs28591114 | kgp22633148 |
| SMPD3 | chr16:68392229-68482409 | chr16:67892229-68982409 | chr16:66949730-67039905 | kgp2756941 | kgp16310484 |
| SNAP23 | chr15:42787503-42825259 | chr15:42287503-43325259 | chr15:40575126-40612548 | rs1668586 | kgp19741111 |
| SNAP25 | chr20:10199476-10288066 | chr20:9699476-10788066 | chr20:10147476-10236065 | kgp4923784 | kgp19370207 |
| SNAP91 | chr6:84262604-84419127 | chr6:83762604-84919127 | chr6:84319331-84475831 | kgp17413387 | kgp16958869 |
| SNTA1 | chr20:31995762-32031698 | chr20:31495762-32531698 | chr20:31459423-31495359 | kgp994844 | kgp22753335 |
| SNURF | chr15:25200069-25244225 | chr15:24700069-25744225 | chr15:22751162-22795318 | kgp20028287 | kgp5644000 |
| SOX4 | chr6:21593971-21598849 | chr6:21093971-22098849 | chr6:21701950-21706828 | kgp3609791 | rs9466264 |
| SPAG1 | chr8:101170262-101254132 | chr8:100670262-101754132 | chr8:101239438-101323306 | kgp5198147 | kgp20550876 |
| SPG7 | chr16:89574804-89624174 | chr16:89074804-90124174 | chr16:88102305-88151675 | kgp3688149 | rs3809643 |
| SPP1 | chr4:88896801-88904563 | chr4:88396801-89404563 | chr4:89115825-89123587 | kgp20744622 | kgp20764098 |
| SPTBN1 | chr2:54683453-54898583 | chr2:54183453-55398583 | chr2:54536957-54752087 | kgp14832324 | kgp12300457 |
| SQSTM1 | chr5:179233387-179265077 | chr5:178733387-179765077 | chr5:179170503-179197683 | kgp10101186 | kgp2553327 |
| SRGAP3 | chr3:9022277-9291311 | chr3:8522277-9791311 | chr3:8997277-9266311 | kgp5324812 | kgp18088153 |
| STARD13 | chr13:33677271-34250932 | chr13:33177271-34750932 | chr13:32575306-33148932 | kgp1217969 | kgp9105015 |

*Fig. 3-25*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| STC2 | chr5:172741725-172756506 | chr5:172241725-173256506 | chr5:172674331-172689112 | kgp22378380 | kgp10706002 |
| STRN | chr2:37064840-37193615 | chr2:36564840-37693615 | chr2:36928975-37047119 | kgp3533593 | kgp9369923 |
| STRN4 | chr19:47222767-47250251 | chr19:46722767-47750251 | chr19:51914607-51941560 | kgp21470253 | rs4804031 |
| STX4 | chr16:31044415-31051485 | chr16:30544415-31551485 | chr16:30951916-30958986 | kgp16259387 | kgp7678241 |
| STX5 | chr11:62574331-62599563 | chr11:62074331-63099563 | chr11:62330944-62356136 | kgp10937693 | kgp568990 |
| STXBP1 | chr9:130374485-130454995 | chr9:129874485-130954995 | chr9:129414388-129494816 | rs1768374 | kgp4399986 |
| STXBP3 | chr1:109289284-109352148 | chr1:108789284-109852148 | chr1:109090807-109153671 | rs6583070 | rs17036360 |
| SULT1E1 | chr4:70706929-70725870 | chr4:70206929-71225870 | chr4:70741518-70760459 | kgp22798798 | kgp5241292 |
| SUMO4 | chr6:149721494-149722182 | chr6:149221494-150222182 | chr6:149763187-149763875 | rs1871921 | kgp17155476 |
| SYT1 | chr12:79257772-79845788 | chr12:78757772-80345788 | chr12:77781903-78367834 | kgp11848377 | kgp18913198 |
| SYT9 | chr11:7273180-7490276 | chr11:6773180-7990276 | chr11:7229756-7446846 | rs7928685 | kgp8567849 |
| TANC1 | chr2:159825145-160089170 | chr2:159325145-160589170 | chr2:159533391-159797416 | rs4664962 | kgp22743229 |
| TANK | chr2:161993465-162092683 | chr2:161493465-162592683 | chr2:161701711-161800928 | kgp7233899 | rs1006427 |
| TAOK2 | chr16:29985187-30003582 | chr16:29485187-30503582 | chr16:29892722-29911082 | rs257868 | kgp2310172 |
| TBCD | chr17:80709939-80901062 | chr17:80209939-81401062 | chr17:78303228-78494351 | rs11653735 | kgp10867492 |
| TBCE | chr1:235530727-235612280 | chr1:235030727-236112280 | chr1:233597350-233678903 | rs2673969 | kgp15284682 |
| TBK1 | chr12:64845839-64895899 | chr12:64345839-65395899 | chr12:63132203-63182158 | kgp18934034 | kgp19122002 |
| TCF1 | chr5:134240810-134298336 | chr5:133740810-134798336 | chr5:134268709-134326235 | kgp22161149 | kgp4823163 |
| TCF3 | chr19:1609288-1652328 | chr19:1109288-2152328 | chr19:1560294-1603328 | rs2302109 | kgp2427498 |
| TCF4 | chr18:52889561-53303188 | chr18:52389561-53803188 | chr18:51040559-51454183 | kgp10409423 | rs1792746 |
| TDGF1 | chr3:46616044-46623952 | chr3:46116044-47123952 | chr3:46594216-46598956 | kgp980076 | kgp18003873 |

*Fig. 3-26*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| TEP1 | chr14:20833825-20881579 | chr14:20333825-21381579 | chr14:19905765-19951420 | rs1780944 | rs12435821 |
| TERT | chr5:1253286-1295162 | chr5:753286-1795162 | chr5:1306286-1348162 | kgp22831882 | rs4975846 |
| TGFA | chr2:70674411-70781147 | chr2:70174411-71281147 | chr2:70527924-70634613 | kgp14279885 | kgp4236793 |
| TIAM1 | chr21:32490735-32931290 | chr21:31990735-33431290 | chr21:31412606-31853161 | rs1702403 | rs1892577 |
| TM4SF1 | chr3:149086804-149095568 | chr3:148586804-149595568 | chr3:150569494-150578258 | kgp18120845 | kgp17746361 |
| TMSB4X | chrX:12993225-12995346 | chrX:12493225-13495346 | chrX:12903145-12905267 | kgp22760889 | kgp22772999 |
| TNFRSF14 | chr1:2487804-2495267 | chr1:1987804-2995267 | chr1:2479150-2486613 | rs2803309 | kgp11439882 |
| TNFRSF1A | chr12:6437922-6451283 | chr12:5937922-6951283 | chr12:6308183-6321522 | kgp6731378,rs4764519 | kgp19158534 |
| TNFRSF1B | chr1:12227059-12269277 | chr1:11727059-12769277 | chr1:12149646-12191864 | kgp15495881 | rs3010872 |
| TNIP2 | chr4:2743386-2758103 | chr4:2243386-3258103 | chr4:2713184-2727859 | kgp20948263 | kgp5432833 |
| TNNI2 | chr11:1860232-1862910 | chr11:1360232-2362910 | chr11:1817480-1819484 | kgp11231095 | rs800123 |
| TNNI3 | chr19:55663135-55669100 | chr19:55163135-56169100 | chr19:60354947-60360912 | rs13382124 | kgp21397937 |
| TNNT2 | chr1:201328141-201346805 | chr1:200828141-201846805 | chr1:199594764-199613428 | rs12733378 | rs10920269 |
| TOMM20 | chr1:235272657-235292256 | chr1:234772657-235792256 | chr1:233339282-233358754 | kgp8358331 | kgp15139309 |
| TOP2A | chr17:38544772-38574202 | chr17:38044772-39074202 | chr17:35798321-35827695 | kgp7375263 | kgp10420460 |
| TP53 | chr17:7571719-7590863 | chr17:7071719-8090863 | chr17:7512444-7531588 | kgp12029669 | kgp11286494 |
| TRADD | chr16:67188088-67193812 | chr16:66688088-67693812 | chr16:65745589-65751313 | kgp16482196 | kgp16510307,rs28521023 |
| TRAF1 | chr9:123664670-123691451 | chr9:123164670-124191451 | chr9:122704492-122731300 | kgp6551598 | rs306777 |
| TRAF6 | chr11:36505316-36531863 | chr11:36005316-37031863 | chr11:36467298-36488398 | kgp12764289 | rs333778 |
| TRBV21-1 | chr7:142344427-142344887 | chr7:141844427-142844887 | chr7:142025416-142025876 | kgp2155197 | kgp9570297 |
| TRIM2 | chr4:154074269-154260474 | chr4:153574269-154760474 | chr4:154293719-154479918 | rs6849505 | rs6843172 |

*Fig. 3-27*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| TRIM29 | chr11:119981993-120008863 | chr11:119481993-120508863 | chr11:119487203-119514073 | kgp12998914 | rs7122702 |
| TRIO | chr5:14143828-14509458 | chr5:13643828-15009458 | chr5:14196828-14562458 | rs1445678 | kgp8041369 |
| TRPC1 | chr3:142443265-142526729 | chr3:141943265-143026729 | chr3:143925955-144009419 | rs9842771 | rs7641069 |
| TRPC3 | chr4:122800182-122872909 | chr4:122300182-123372909 | chr4:123019881-123092359 | kgp21231448 | kgp5789583 |
| TRPC4 | chr13:38210772-38443939 | chr13:37710772-38943939 | chr13:37108794-37341935 | kgp22792521 | rs7338958 |
| TRPV1 | chr17:3468739-3512705 | chr17:2968739-4012705 | chr17:3415489-3459454 | kgp8654960 | rs9890881 |
| TRPV4 | chr12:110220891-110271212 | chr12:109720891-110771212 | chr12:108705276-108755595 | kgp11365980 | kgp19139284 |
| TRPV6 | chr7:142568959-142583490 | chr7:142068959-143083490 | chr7:142279081-142293599 | kgp9647465 | kgp2837315 |
| TSC22D4 | chr7:100064141-100076902 | chr7:99564141-100576902 | chr7:99902077-99914838 | kgp5759639 | kgp10599319 |
| TSHR | chr14:81421868-81612646 | chr14:80921868-82112646 | chr14:80491621-80682399 | kgp19546597 | rs10134565 |
| TSPAN6 | chrX:99883794-99891794 | chrX:99383794-100391794 | chrX:99770450-99778450 | kgp22794008 | rs7059563 |
| TTBK1 | chr6:43211221-43255997 | chr6:42711221-43755997 | chr6:43319199-43363975 | kgp17369454 | kgp17498760 |
| TTC1 | chr5:159436179-159492550 | chr5:158936179-159992550 | chr5:159368757-159425128 | kgp5018309 | kgp22489460 |
| TTK | chr6:80714321-80752244 | chr6:80214321-81252244 | chr6:80771077-80808958 | kgp949561 | kgp12311980 |
| TTN | chr2:179390717-179672150 | chr2:178890717-180172150 | chr2:179098963-179380395 | rs959775 | rs6433773 |
| TUB | chr11:8040790-8127654 | chr11:7540790-8627654 | chr11:8016755-8084228 | kgp12365126 | kgp1066384 |
| TUBA8 | chr22:18593452-18614498 | chr22:18093452-19114498 | chr22:16940685-16994498 | rs1034470 | kgp9877961 |
| UBE2V2 | chr8:48920994-48974454 | chr8:48420994-49474454 | chr8:49083547-49137007 | kgp3293751 | kgp20374954 |
| ULK1 | chr12:132379278-132407707 | chr12:131879278-132907707 | chr12:130945231-130973649 | kgp7696078 | kgp11815104 |
| USP7 | chr16:8985950-9057341 | chr16:8485950-9557341 | chr16:8893451-8964842 | kgp79060 | rs1035944 |
| VAV1 | chr19:6772721-6857371 | chr19:6272721-7357371 | chr19:6723721-6808371 | kgp21410647 | kgp21471951 |

*Fig. 3-28*

| Tier 3 Gene | GeneRange(hg19) | GeneRange+500kb(hg19) | GeneRange(hg18) | StartSNP (GeneRange+500kb) | EndSNP (GeneRange+500 kb) |
|---|---|---|---|---|---|
| VCL | chr10:75754950-75879914 | chr10:75254950-76379914 | chr10:75424956-75549920 | rs7099640 | kgp21840278 |
| VDAC1 | chr5:133307565-133340824 | chr5:132807565-133840824 | chr5:133335505-133368723 | kgp22321002 | kgp9499928 |
| VIL2 | chr6:159186773-159239340 | chr6:158686773-159739340 | chr6:159106761-159159328 | rs9366083 | kgp10633571 |
| VIM | chr10:17270257-17279592 | chr10:16770257-17779592 | chr10:17310475-17319598 | kgp1974218 | kgp8572563 |
| VTN | chr17:26694298-26697373 | chr17:26194298-27197373 | chr17:23718425-23721500 | rs12602762 | kgp2208161 |
| WDR62 | chr19:36545782-36596012 | chr19:36045782-37096012 | chr19:41237622-41287852 | kgp5818871 | kgp7464156 |
| WDR91 | chr7:134868589-134896316 | chr7:134368589-135396316 | chr7:134520524-134546811 | kgp7394785 | kgp4752834 |
| WWC1 | chr5:167719064-167899308 | chr5:167219064-168399308 | chr5:167651669-167829342 | rs10454965 | rs7724207 |
| XK | chrX:37545132-37591383 | chrX:37045132-38091383 | chrX:37430051-37476322 | kgp22781551 | kgp22821350 |
| YWHAB | chr20:43514343-43537161 | chr20:43014343-44037161 | chr20:42947757-42970575 | rs4364072 | rs2247619 |
| YWHAE | chr17:1247833-1303556 | chr17:747833-1803556 | chr17:1194592-1250267 | rs4968122 | kgp1552188 |
| YWHAG | chr7:75956107-75988342 | chr7:75456107-76488342 | chr7:75794051-75826252 | kgp13357645 | kgp7952605 |
| YWHAZ | chr8:101930803-101965623 | chr8:101430803-102465623 | chr8:102000089-102034745 | rs4075553 | kgp4135753 |
| ZNF24 | chr18:32912177-32924426 | chr18:32412177-33424426 | chr18:31166175-31178424 | kgp5227729 | kgp15931312 |

*Fig. 3-29*

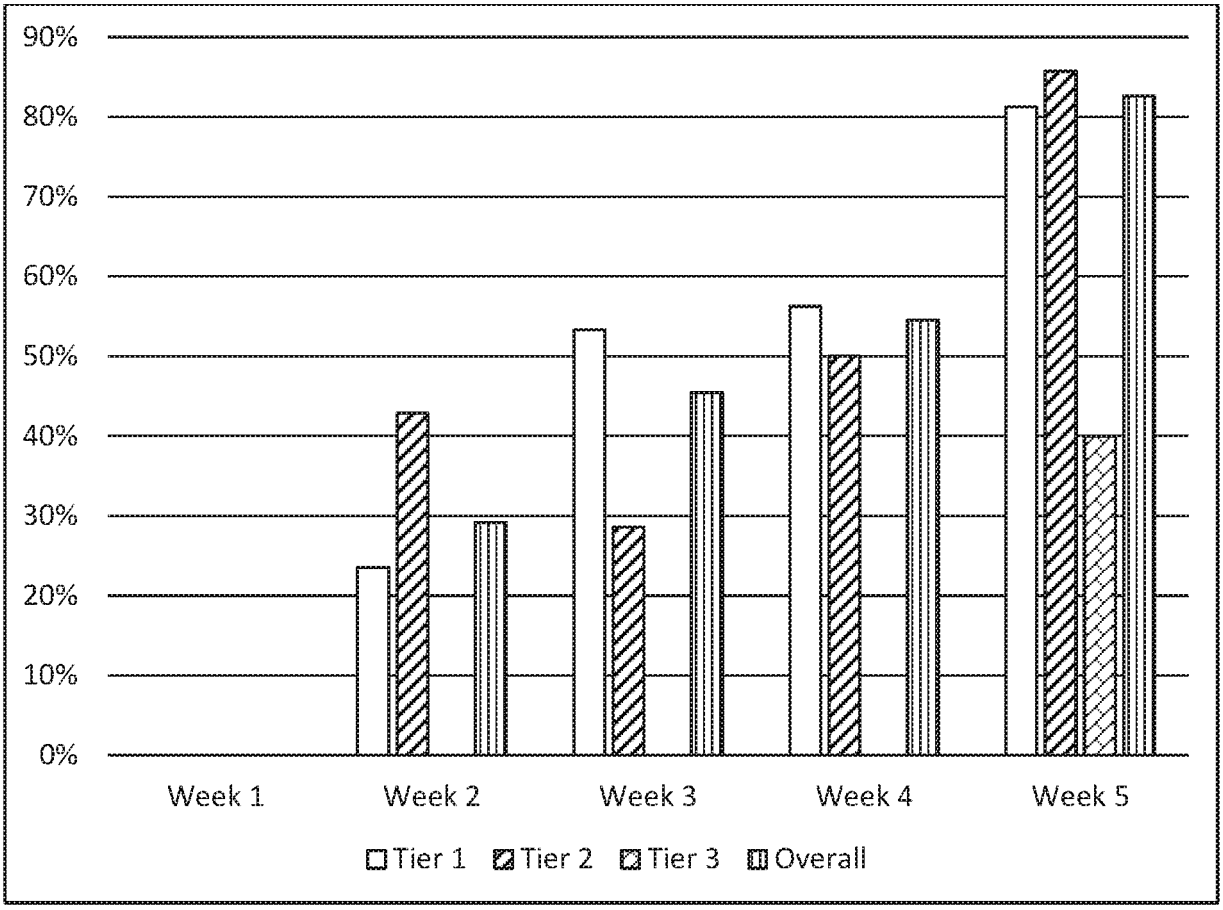

90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Week 1
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
Overall

*FIG. 4*

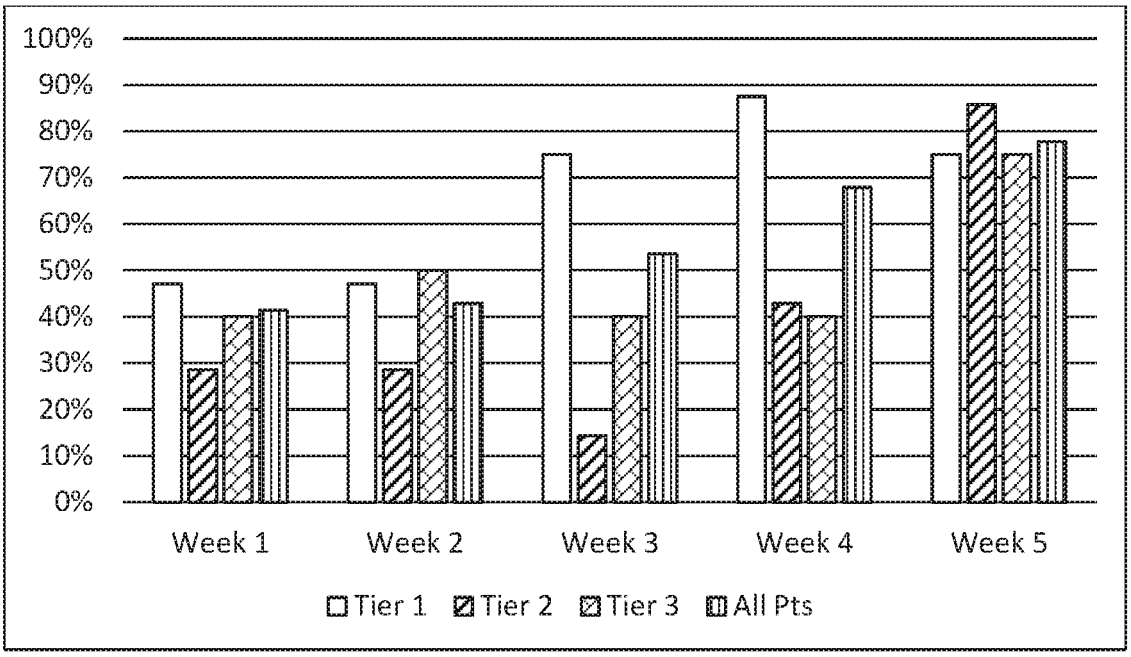

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Week 1
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 5A

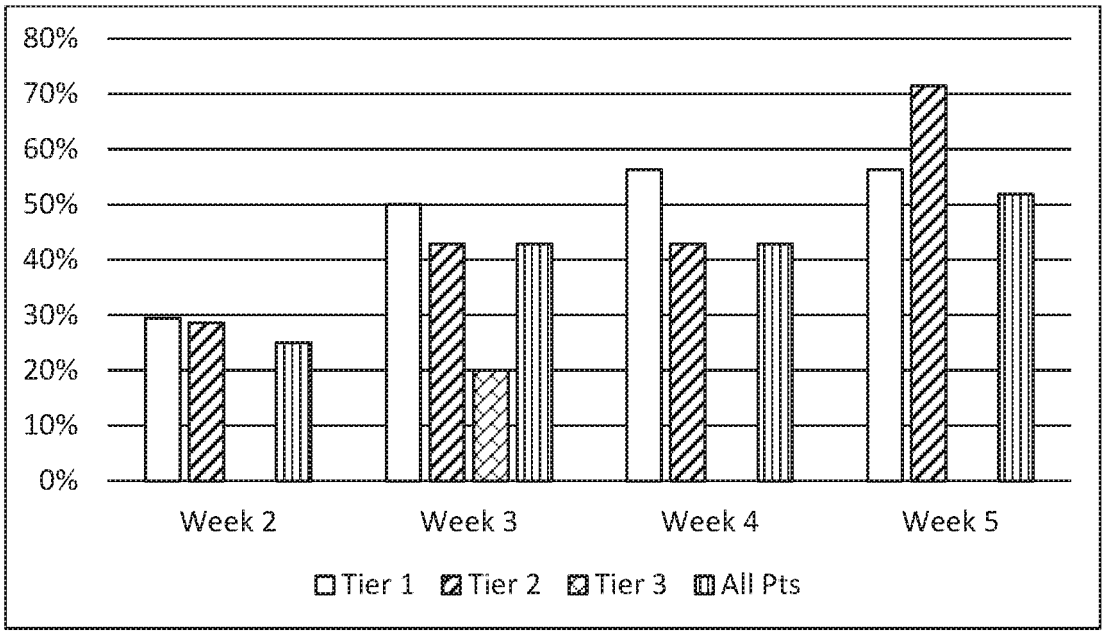

80%
70%
60%
50%
40%
30%
20%
10%
0%
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 5B

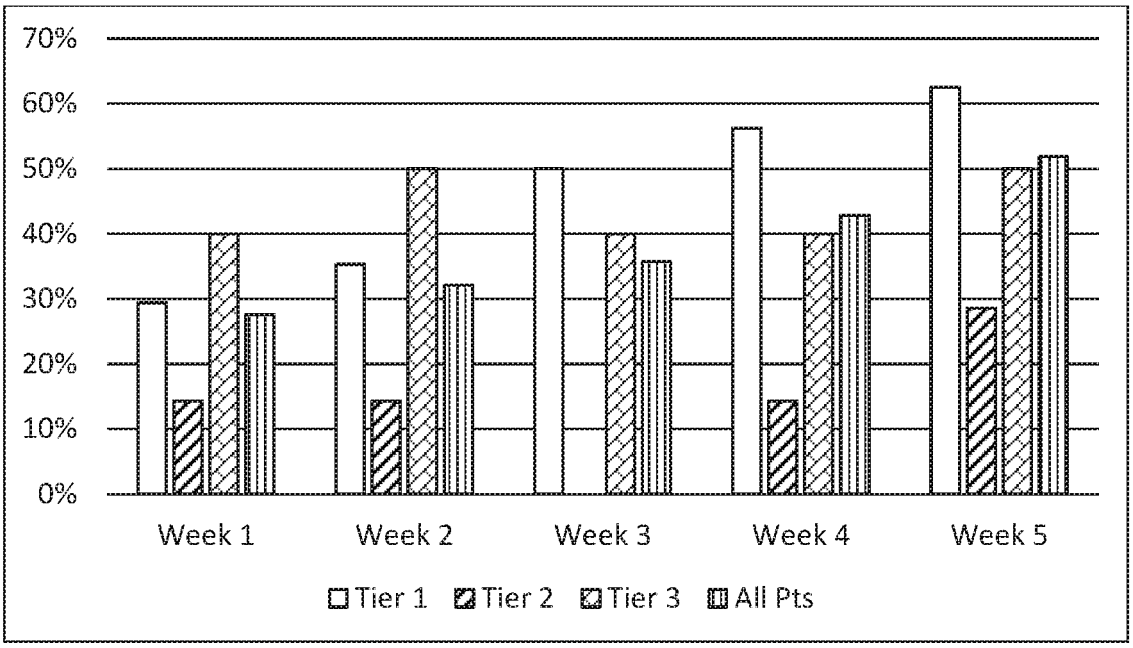

70%
60%
50%
40%
30%
20%
10%
0%
Week 1
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 6A

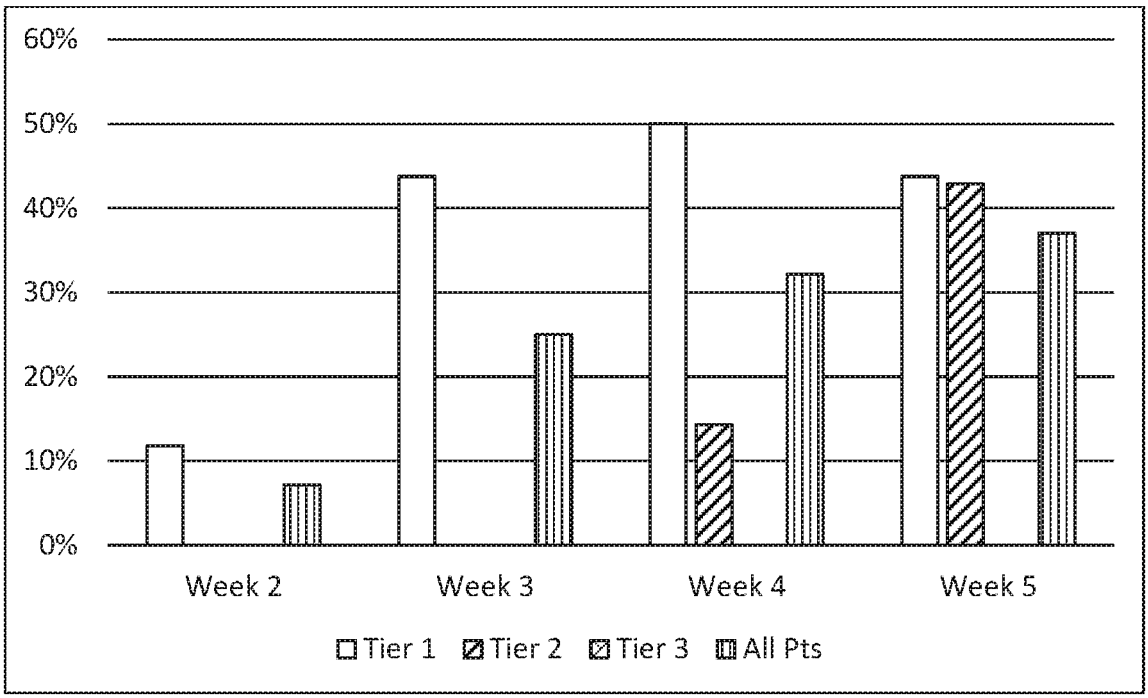

60%
50%
40%
30%
20%
10%
0%
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 6B

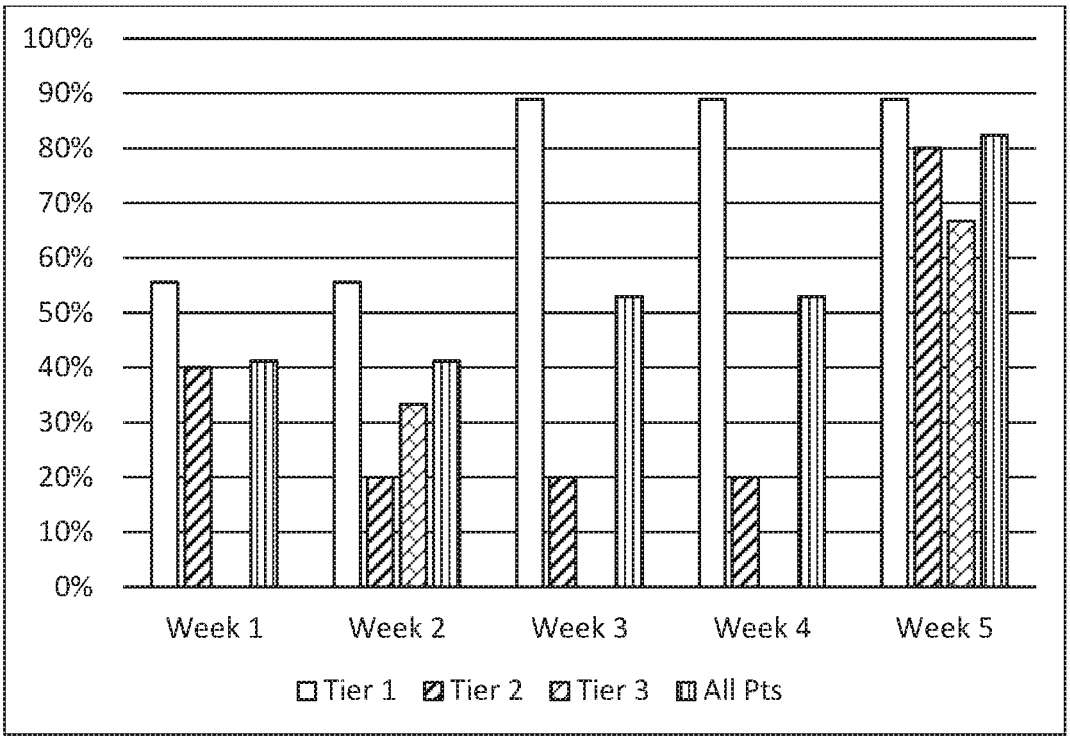

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Week 1
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 7A

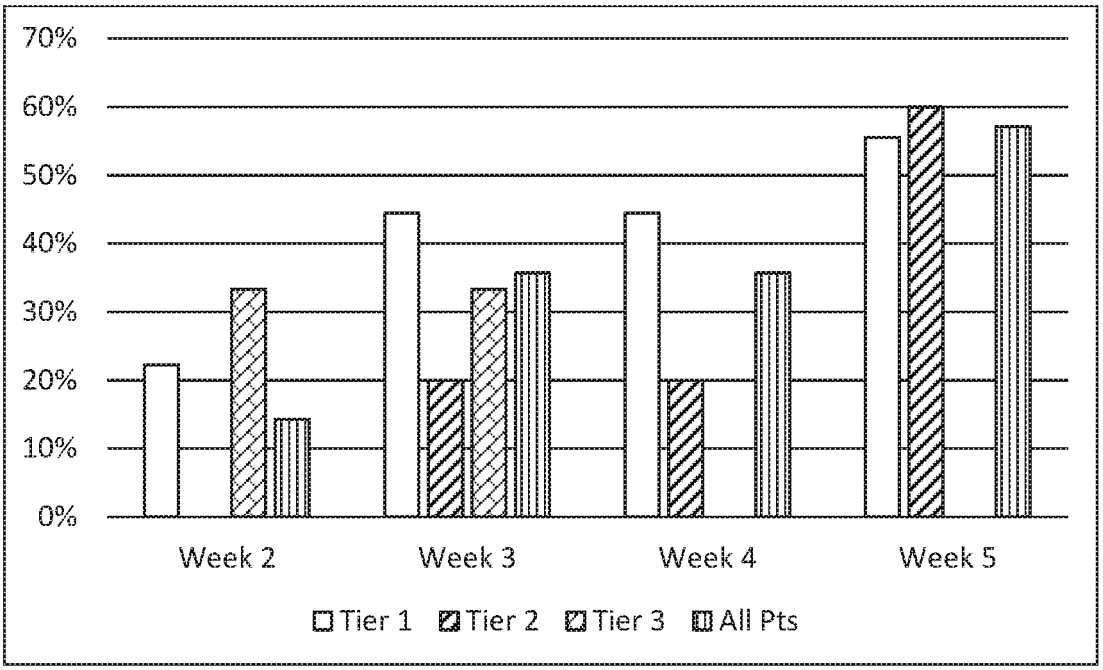

70%
60%
50%
40%
30%
20%
10%
0%
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 7B

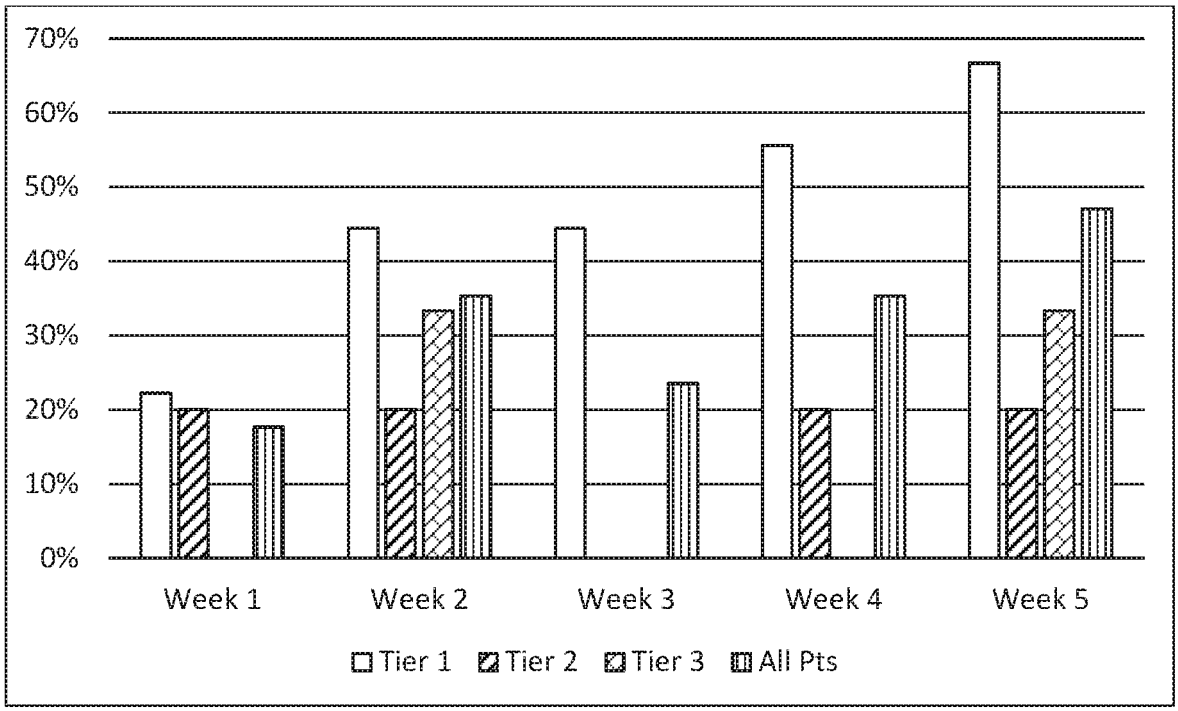

70%
60%
50%
40%
30%
20%
10%
0%
Week 1
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 8A

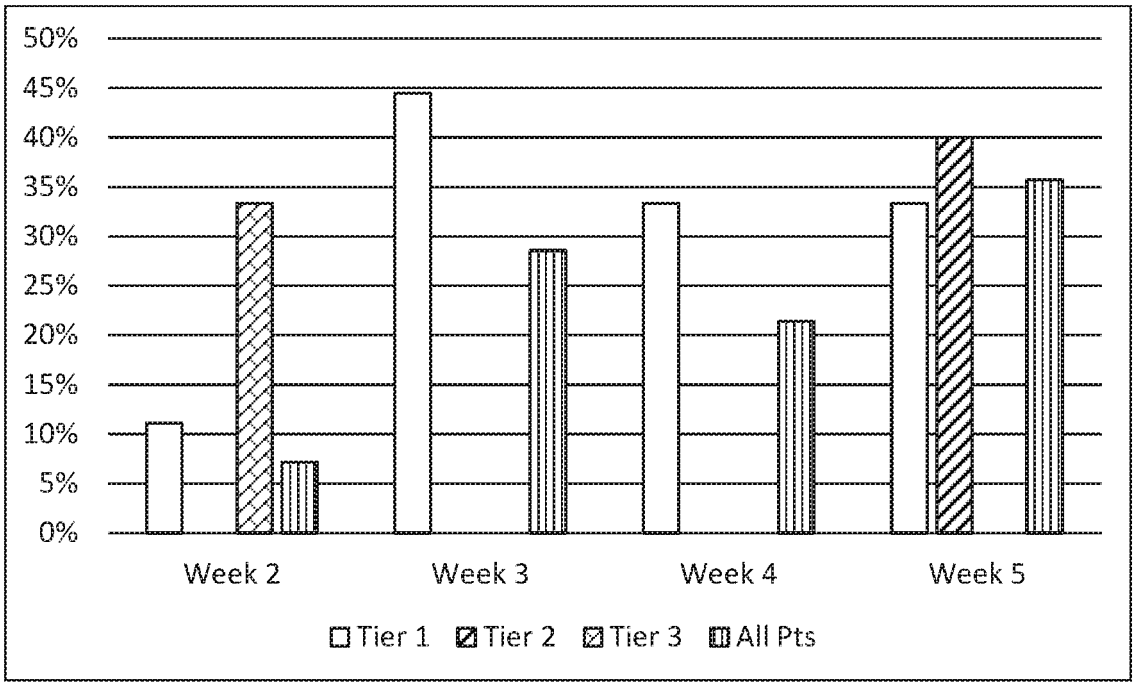

50%
45%
40%
35%
30%
25%
20%
15%
10%
5%
0%
Week 2
Week 3
Week 4
Week 5
Tier 1
Tier 2
Tier 3
All Pts

FIG. 8B

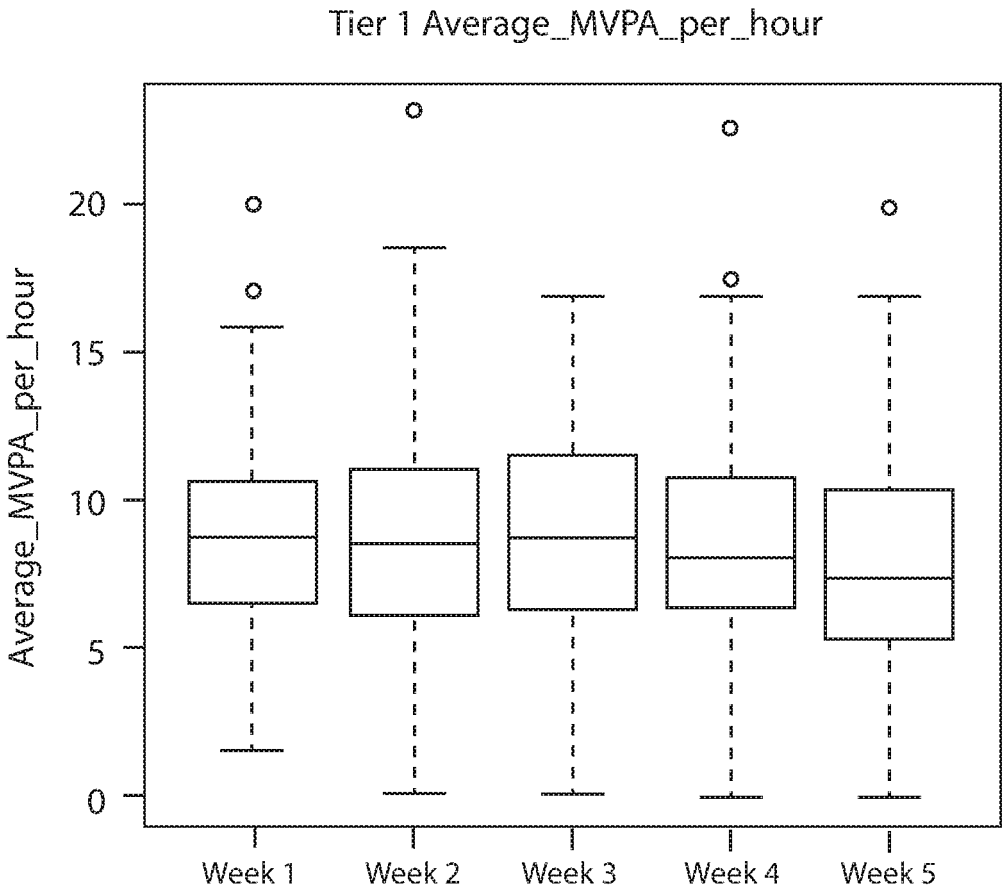

Tier 1 Average_MVPA_per_hour
Average_MVPA_per_hour
0
5
10
15
20
Week 1
Week 2
Week 3
Week 4
Week 5

Fig. 9A

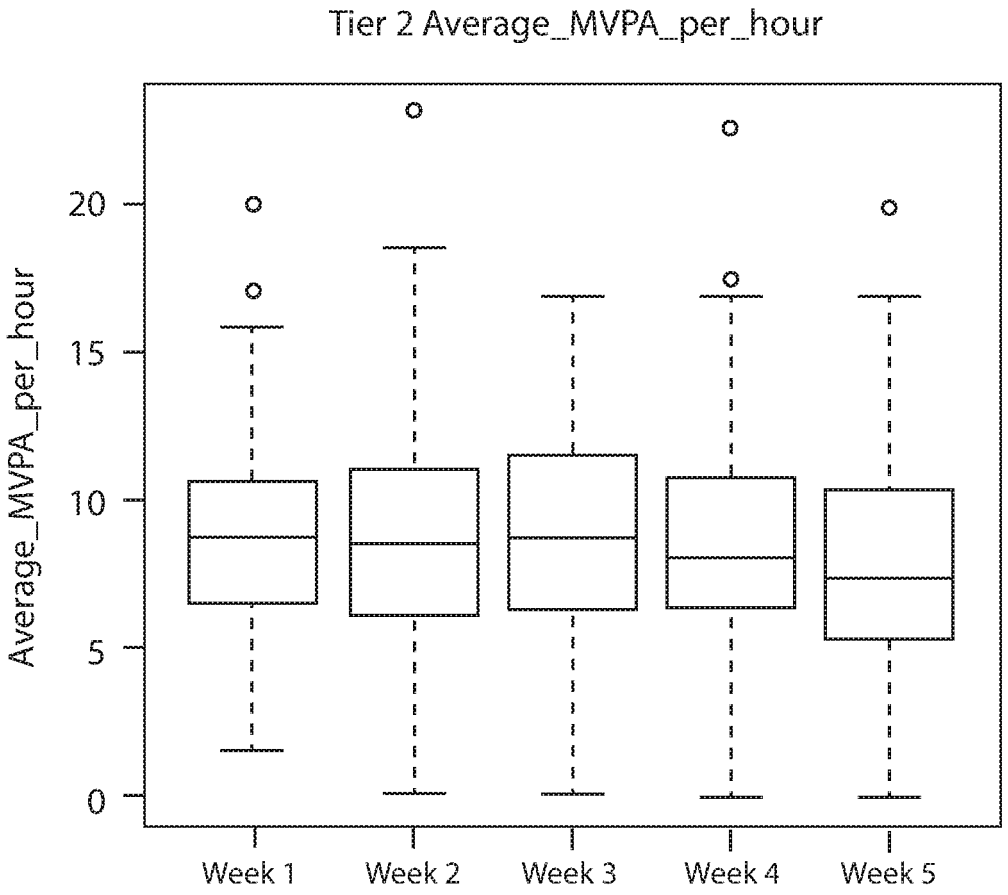

Tier 2 Average_MVPA_per_hour
Average_MVPA_per_hour
0
5
10
15
20
Week 1
Week 2
Week 3
Week 4
Week 5

Fig. 9B

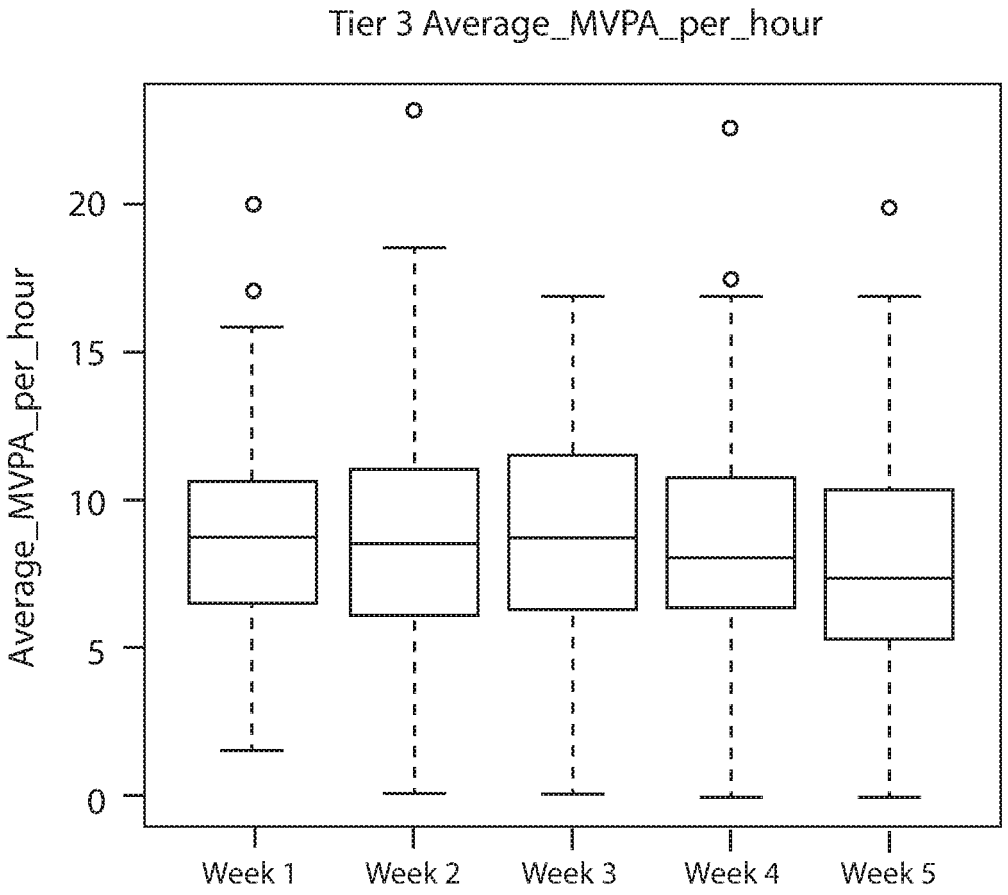

Tier 3 Average_MVPA_per_hour
Average_MVPA_per_hour
0
5
10
15
20
Week 1
Week 2
Week 3
Week 4
Week 5

Fig. 9C

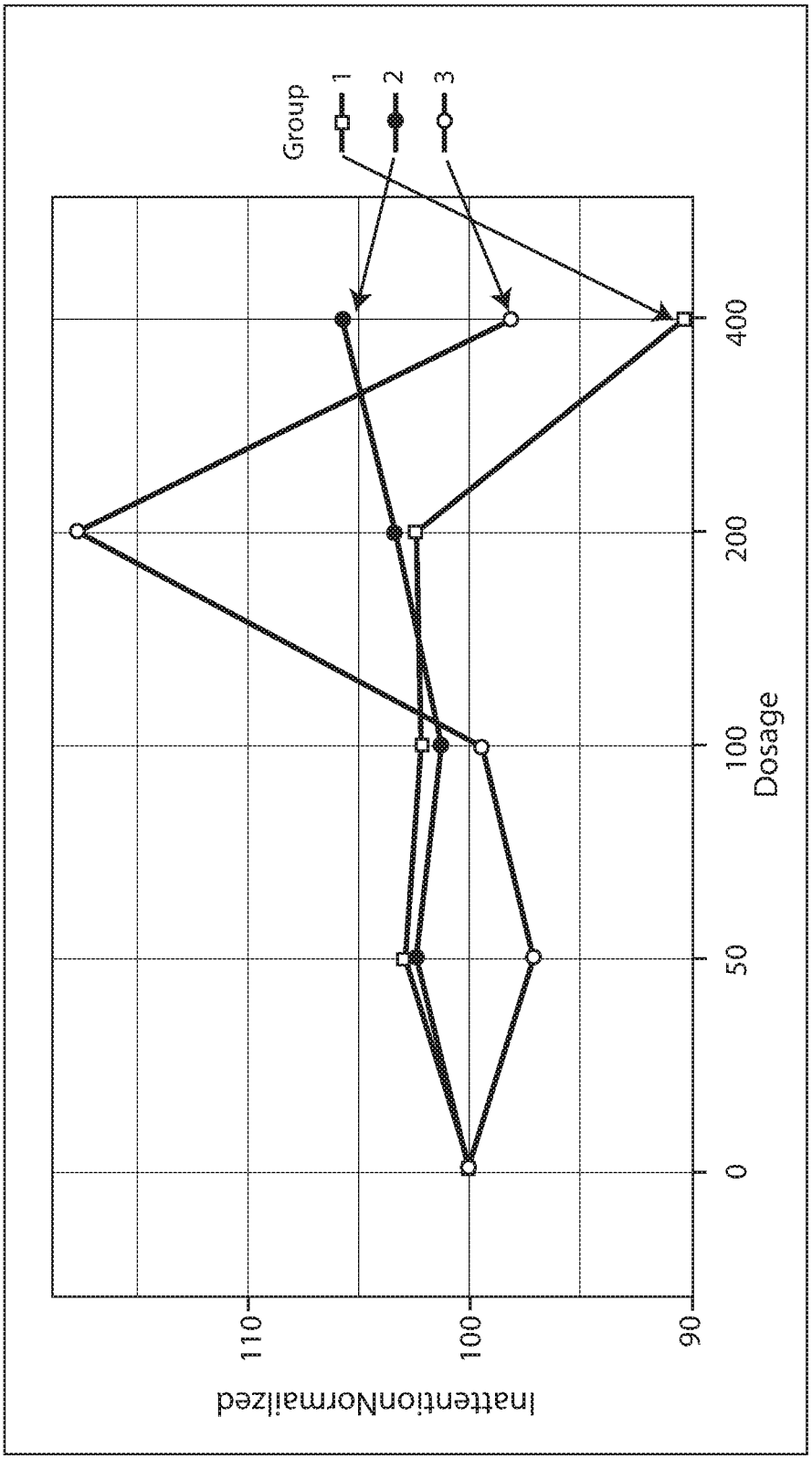

Group
1
2
3
InattentionNormalized
110
100
90
0
50
100
200
400
Dosage

Fig. 10