

Supplementary Table S1 Primers for qPCR.

| gene | NM ID | Forward | Reverse | Length (bp) |
|---------------|--------------|----------------------------------|---------------------------------------|----------------|
| <i>Map3k7</i> | NM_009316 | 5'-AGTATGTCTTGATG GAATA-3' | 5'-GTGTAGTAAGGCA ATGGT-3' | 81 |
| <i>Mapk14</i> | NM_001168514 | 5'-TGTTCTGTCTATCTCA CTTC-3' | 5'-GAGGCACTTGAAT GGTAT-3' | 75 |
| <i>Atf2</i> | NM_001025093 | 5'-GGCGTTCAAGCAGGA TTC -3' | 5'- TGACACTGAGACCAT AGCAATA -3' | 106 |
| <i>Pparg</i> | NM_001127330 | 5'- GCATCAGGCTTCCACTAT -3' | 5'- CTTCAATCGGATGGTT CTTC -3' | 75 |

Map3k7: mitogen-activated protein kinase kinase kinase 7; *Mapk14*: mitogen-activated protein kinase 14; *Atf2*: activating transcription factor 2; *Pparg*: peroxisome proliferator activated receptor gamma

Supplementary Table S2 The list of differential expression miRNAs identified in RC group (fold change<2, $P<0.05$).

| miRNA | Fold change | P-value | Mature sequence |
|--------------------------------|-------------|-----------------------|----------------------------|
| Upregulated miRNAs | | | |
| mmu-miR-25-5p | 2.64 | 1.28×10^{-3} | AGGC GGAGACU UGGG CAAU UGC |
| mmu-miR-291b-5p | 2.80 | 1.67×10^{-2} | GAUCAAAGUGGAGGCCUCUCC |
| mmu-miR-504-3p | 2.79 | 2.39×10^{-5} | AGGGAGAGCAGGGCAGGGUUUC |
| mmu-miR-1947-3p | 3.33 | 1.01×10^{-3} | GCACUGAGCUAGCUCUCCCUC |
| mmu-miR-7014-5p | 3.90 | 1.59×10^{-5} | UUGGGUGCUGUGGAAGGGACAG |
| mmu-miR-7025-5p | 2.18 | 6.51×10^{-5} | CGUGAGCUGAAGCUGGUGGCUCC |
| Downregulated microRNAs | | | |
| mmu-miR-149-5p | 0.444 | 1.72×10^{-4} | UCUGGCUCCGUGUCUUCACUCCC |
| mmu-miR-151-5p | 0.365 | 1.27×10^{-6} | UCGAGGAGCUCACAGUCUAGU |
| mmu-miR-324-3p | 0.450 | 6.36×10^{-4} | CCACUGCCCCAGGUGCUGCU |
| mmu-miR-338-5p | 0.469 | 2.17×10^{-6} | AACAAUAUCCUGGUGCUGAGUG |
| mmu-miR-351-5p | 0.411 | 5.84×10^{-5} | UCCCUGAGGAGCCCUUUGAGCCUG |
| mmu-miR-181b-5p | 0.342 | 2.78×10^{-5} | AACAUUCAUUGCUGUCGGUGGGU |
| mmu-miR-125b-1-3p | 0.403 | 2.44×10^{-5} | ACGGGUUAGGCUCUUGGGAGCU |
| mmu-miR-674-5p | 0.247 | 8.68×10^{-6} | GCACUGAGAUGGGAGUGGUGUA |

Supplementary Table S3 Validated miRNA target for the miRNAs differentially expressed in RC group, compared with CC group.

| miRNA | regulation | Target genes |
|----------------|------------|--|
| mmu-miR-149-5p | down | <i>Macf1, Acvr1b, Adsl, Aicda, Akt1, Aldoc, Atg5, Arc, Astn1, Atp2a2, Slc7a1, Atrn, Bach1, Fabp7, Calr, Camk2g, Capns1, Ctnnd1, Cbln1, Cbx1, Cbx5, Entpd6, Tpp1, Cpxo, Crkl, Cxadr, Ddx3x, Dgcr2, Dok1, Efna5, Epb4.1l1, Eph4, Ephb3, F3, Fem1b, Fkbp1b, Lpin1, Fnbp1, Fut9, Gab1, Gabrb2, Gnao1, Gng7, Gpc1, Pigq, Gril1, Grm1, Gtf2i, Hnrnpa1, Hspg2, Htr5a, Ifngr2, Igfbp5, Ikbkg, Irak1, Il1rap, Il5ra, Il6st, Inpp5b, Itpa, Itsn1, Kcnc1, Kcnj10, Kcnj16, Kcnj3, Kif1b, Kifap3, Kit, Lfn, Lhx1, Smad7, Mbp, Mdm4, Mecp2, Mmp15, Myo10, Nedd4, Nf1, Nfia, Nfix, Nptx1, Nrp2, Ntrk2, Pafah1b2, Furin, Pdgfrb, Pea15a, Per2, Phka1, Papola, Plec, Plxna2, Prkab1, Prnp, Ptgrfrn, Ptpn11, Ptpn12, Ptpn4, Ptpn5, Ptprd, Rdx, Sart1, Scd2, Scn1a, Scn8a, Cxcl12, Nptn, Sema4a, 42621, Sez6, St8sia3, Slc1a1, Soat1, Sptbn2, Sdc3, Syt2, Slc6a6, Tef, Tex264, Timp3, Tspan7, Tnks, Ttc3, Ube2i, Uspl0, Ugcg, Ulk1, Vamp2, Vldlr, Wdr1, Zmat3, Ybx1, Ybx1, Ywhag, Slc30a4, Mid2, Mmp17, Dazap2, Axl, Btd, Map3k7, Mapk9, Git2, Sema4g, Vat1, Cul1, Add3, Ip6k1, Nrep, Med10, Tinf2, Tomm70a, Igfbp7, Pde7b, Zfp354c, Tmod2, Uba2, Rnf24, Kcnk6, Kcnk6, Reep1, Coa3, Mettl2, Ccdc43, Sdcbp, Reck, Gria3, Map3k14, Rfx5, Rragc, Elovl2, Ywhab, Syt6, Stam2, Txnip, Adar, Mtch1, Rapgef4, Pnkd, Aldh9a1, Scamp5, Sertad2, Hic2, Ppp1r1a, Fam129a, Nrgn, Gprc5b, Twsg1, Pno1, 2010012O05Rik, Slc30a7, Spp12a, Ppp1r2, Hmg20a, Pccb, Aagab, Ssbp2, Tbc1d20, Gpr89, Luc7l3, Ppap2b, Rab14, Lmbrd1, Tmem109, Slc44a2, Trp53inp2, Elovl5, 1190002N15Rik, Zdhhc3, Ubr4, Elf2, Tmem127, Antxr1, Cdk13, Dab2ip, Emc10, Sash1, Gprc5c, Polr3f, Atad2, Ecd, Med26, Sik3, Dusp16, Trak2, Naa40, Foxn3, Clmp, Zfp251, Cdadc1, Fam219a, Zcchc24, Slc37a3, Brap, Mvb12b, Reep4, Tmem135, Macrod2, Ccsrer2, Slc22a23, Setd7, Iws1, Speer4b, Sec14l1, Dpp8, Neto2, 8430419L09Rik, Zkscan1, Ddit4, Dhcr24, Asxl2, Arl5a, Zbtb4, Mpp7, Srrm2, Cant1, Rap2a, Paqr4, Snx27, Adck4, Bicd2, 2510039O18Rik, Nkrf, Krba1, 6030458C11Rik, Cdk19, Ttyh3, Btbd19, Rictor, Zcchc4, N4bp1, Plekha2, Tmem2, Zkscan8, Entpd7, Csnk1a1, Klf7, Ube2n, B3galt5, Arid4b, Slc24a3, Hecw1, Wwtr1, Fam102a, Clp1, Camta1, Bsdc1, Slc15a4, Spred3, f3b3, Tcta, Slc6a8, Nt5dc3, Synj1, Cnot6, Lmf2, Csd2, Stk38, Slc39a3, Unc5b, Rnf144a, Atad3a, Rcc2, Rnf169, Zzz3, Ank2, Braf, Tmbim6, Cds2, Rad51c, Pofut1, Elmo1, Caln1, Usp48, Edem1, Bcas3, Bptf, Thsd4, BC034090, Gm608, Rsrc2, Lpcat1, Plekhh2, Tnrc6b, BC003965, BC003965, Fbxl16, Fbxl16, Fbxl16, Slc43a2, Hip1, Rhbdd2, Camk1g, Nav1, Nhs1, Tns4, Trib2, Nol10, 4933426M11Rik, Mylip, Mylip, Ska3, Fam49b, Gxylt1, Dbx2, Poglut1, Rnf165, Ablim1, Rab3gap1, R3hdm1, Zbtb41, Nmnat2, Kansl3, Zer1, Prrc2b, Mapkap1, Sestd1, Ncoa5, Syt11, Otud7b, Rsb1, Slc6a17, Ahcyl1, Ikbkap, BC026590, Efocab14, Slc10a4, Lmtk2, Mob1a, Wnk1, Dpy19l3, Tnrc6a, Arhgef10, Gramd1b, Zfp28</i> |

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| | | <i>Od, Zfp445, Ago1, Osbp18, Cdr2l, Gpr68, BC030476, BC030476, Cadm2, Fem1c, Ralgapa2, Frem2, Rgp1, Tmem8b, 2900026A02Rik, Elf1n1, Prickle2, Nlgn3, Fktn, Mfrp, Bahcc1, Mtmr12, Ppp2r2c, Rab6b, Adamts16, Eif5a, Snhg11, Celf5, Zfyve27, Zbtb39, Cep95, Lrrc58, Ric3, Trank1, Ipcef1, Slc35e2, Fam102b, Acot11, Opcml, Ksr2, Cog3, Nr1d2, Shisa6, Rap1gap2, 2700089E24Rik, Crtc1, Tmtc1, Flrt1, Scn4b, Zfp941, Zyg11b, Zyg11b, Adcy1, Zbtb9, Gpr17, Efr3b, Zfp605</i> |
| mmu-miR-291b | up -5p | <i>Rab27a, Bach2, H2-Q4, Hipk3, Ogdh, Ppp2r3d, Ptprg, Mettl2, Zfp113, Cdc37l1, Ttc14, Fndc1, Grap, Cdc42se2, Asxl2, Msi2, Cd300a, Nol10, Tmem136, Mcc, Zfp866</i> |
| mmu-miR-151- | down 5p | <i>Pdpk1, Rac2, Moap1, Csrnp3, Tbl1xr1, Efocab4a, Rinl, AK010878,</i> |
| mmu-miR-324- | down 3p | <i>Abl1, Abl2, Macf1, Chrna4, Acvr1b, Adam10, Adcyap1r1, Anxa5, Ap2a2, Astn1, Atp6v1b2, Atrn, Ngfrap1, Bmpr1a, Cacna2d3, Canx, Ctnnb1, Cav2, Cfb, Cbx5, Cfl2, Clcn4-2, Clock, Col12a1, Cplx1, Crat, Dpysl2, Dnajc5, Ncan, Dag1, Dgcr2, Reep5, Drd2, Dvl2, Ednra, Eif1a, Epb4.1l2, Eps15, Evl, Fem1b, Gabra1, Gabrb2, Gda, Gfap, Gja1, Gnao1, Gnb1, Gpam, Gpc1, Gpm6b, Gria2, Gsp2t2, Gtf2i, H2-D1, Hdac6, Tfb2m, Sdc2, Hyal1, Igf1r, Il1r1, Kif1b, Kif5c, Klf9, L1cam, Lfng, Lipa, Smad3, Smad4, Mecp2, Kitl, Mmp24, Cd200, Laptm4a, Myo6, Myt1, Ncam1, Nck1, Nedd4, Nfib, Nme1, Nos1, Nup50, Ntrk2, Ocln, Igbp1, Padi2, Pfkfb2, Pik3ca, Prkcb, Ppp3r1, Prkdc, Pex19, Rab5b, Rab6a, Rela, Relgds, Rgl1, Rit1, Rock2, Ryk, Zfp106, Skil, Slc12a2, Slc12a7, Slc31a1, Smarca4, Snn, Stag1, Syp, Syt1, Slc6a6, Tcf4, Zeb1, Tgfb2r, Tln1, Tpmt, Nr2c2, Ttc3, Ugt8a, Ulk1, Utrn, Lin7c, Nrsn1, Ywhag, Zfp148, Dmtf1, G3bp2, Mid2, Tenm4, Tpra1, Zeb2, Map2k1, Mapk14, Cln8, Vat1, Etv3, Ept1, Fam104a, Rabgap1l, Fbxw7, Fbxo18, Mapk6, Dkk3, Tmod2, Reep1, Esyt2, Tmx4, Ywhab, Pcnx, Sfmbt1, Stx8, Tmem131, Syncrip, Clip1, Mtch1, Ppp1r1a, Slc4a8, Itm2c, Tsc1, Arl6ip5, Rogdi, Bola2, Lrrc57, Lix1, Riok3, Mkrn2, Ccdc25, Wdr85, Rab3c, Jam2, Bag4, Ccdc127, Slc25a46, Mettl16, Ccdc50, Rab13, Stx17, Zmym4, Ppp6c, Mdp1, Nmb, Pdzd2, Fam135a, Lmbrd1, Rmnd5a, Tmem109, Ppm1f, Acss1, Ankrd46, Srrm4, 2810407C02Rik, Antxr1, Usp46, Acot7, Cpm, Ap2b1, March8, Ppapdc1b, Rap2c, Katnbl1, Pan3, Tmem135, Slc22a23, Psmb11, Arpp21, 4931428F04Rik, Asxl2, Ttpal, Slc24a2, Faf2, Khdc10, Tanc2, Heg1, Hook1, Nuak1, Ttyh3, Gatsl2, Sytl2, Trps1, Zkscan8, Narg2, Pard6g, Cadm3, Wwtr1, Hadha, Usp6nl, Tm9sf4, Garnl3, Mdn1, Osbp19, Pds5b, Nfxl1, Akap9, Maml1, Cnot6, Rnf44, Ankrd28, Fam19a5, Ankrd12, Scamp1, Chd4, Pip4k2b, Galnt7, Oxsrl1, 2700081O15Rik, Zzz3, Zzz3, Zzz3, Ank2, Pygb, Rap1gap, Spred2, Baz2a, Pip4k2c, Caln1, Slc17a6, Hpcal4, Mtmr4, Rbm39, Cd99l2, Fam195b, Ash1l, Lrrc4, Arhgdia, Zzef1, Csrnp2, Snx30, Nudcd3, Papd7, Zfyve26, Klhl32, Rassf4, Kmt2a, Vezt, Slc43a2, F</i> |

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| | | <i>am73a, Cnksr3, Nlgn2, Cdc27, Nploc4, Mbip, 4933426M11Rik, Pacs2, Mtmr6, March6, Pim3, Adcy5, Cldn25, Enpp4, Zfp521, Patl1, Ablim1, Smg7, Lpgat1, Gifyf2, Ppig, Rhov, Frmd5, Ralgapb, Stx16, Syt11, Cpeb2, Fbxl18, Jazf1, Wnk1, Zfp592, Cog7, Cog7, Cog7, Whsc1l1, Psd3, Scn3b, Osbpl8, Gpatch8, Lnpep, Tor1aip2, Fam171b, Impad1, Slc35d1, Wasf2, Rsbn1l, Gprin3, C230081A13Rik, Iqsec2, Pcmtd2, Usp7, Prrt1, Gga3, Alkbh5, Zfp652, Lsamp, Rab6b, Shc4, Klhl23, Snhg11, Hs3st5, Rc3h2, Zmat4, Tacc1, Lrrc58, Ric3, Pptc7, Frs2, Gfod1, Zmiz1, Zfp414, Zfp516, Myo18a, Intu, Ccnjl, Fnndc5, Scn4b, Gnptab, Lrp3, Dos</i> |
| mmu-miR-338- | down | |
| 5p | | <i>Adam9, Bcl2l11, Cxadr, Dck, Ereg, Gfra2, Il17ra, Itga4, Plaur, Tec, Tfnsrf10b, Zeb2, Map2k7, Mplkip, Zcchc10, Rbm28, Rbm28, Hnrnpul2, Sash1, Sash1, Col24a1, Crebrf, Csgalnact2, Ankrd17, Ifi44, Boc, Gpkow, Fam46a, Zfp609, Pcdh20, Tiprl, Slc35a3, Elfn1, Ctdspl2, Cecr2, Lekr1</i> |
| mmu-miR-351- | down | |
| 5p | | <i>E2f3, Il1rn, Il1rn, Foxk1, Mtf1, Siah2, Stat1, Tnf, Jmy, Snrnp40, Aph1c, Antxr2, Dqx1, Lars2, Wdr25, Madd, Mgat4a, Tspan12, Hif1an, Gm14137, Trim71</i> |
| mmu-miR-181b | down | |
| -5p | | <i>SIX2, Aicda, Ak4, Ap1g1, Aqp3, Atp2a2, Atp5g1, Casp3, Ebf3, Gch1, Hspa5, H2-D1, Hk2, Magea5, Mxi1, Ndrg1, Cd244, Rad51d, Smarca4, Spp1, Timp3, Tulp3, Uchl1, Ikzf2, Cbx7, Higd1a, Pdxp, Ms4a4c, Sc4mol, Nacc1, Lnp, Zfp689, Osbpl3, Ulk3, Pitpnc1, Errfi1, 4930563E22Rik, Tmem14a, Slc35d3, Fam122b, Trim2, Sgpp1, Clmn, Adamts9, Snx25, Pfkfb3, Itpk1, Fam160b2, Fam69c, Bnc2, Ptchd2, Stk32a, Dagla, Gpd1l, Ccdc58, Arhgef15,</i> |
| mmu-miR-125b | down | |
| -1-3p | | <i>Nkx2-5, Srf, Prpf8</i> |
| mmu-miR-674- | down | |
| 5p | | <i>Ankfy1, Atrn, Bach2, Cflar, Cxcr2, Ccr9, Comt, Cx3cr1, Cyp2e1, Ddx3x, H2-T23, Il15ra, Irak1, Mbp, Myo1c, Naip5, Ogdh, Ogdh, Pcsk6, Pola2, Pola2, Rab33b, Rbbp4, Sap18, Slc23a1, Med22, T2, Ubp1, Ywhag, Scd3, Rbm34, Banp, Tyk2, Nip7, Rpl7l1, Polr2l, Srp72, Magt1, Ccdc25, Ppil4, Spc24, Pblld1, Dph5, Mfsd11, Arl16, Tspan15, Zfp935, Wdr89, Fam177a, Dcaf4, Asxl2, 1700016D06Rik, Anks1b, Myh10, Ypel2, Nol3, Clca2, Zfp202, Mpv17l, Loxl2, Loxl2, Commd7, Ssr1, Cenpf, Prps2, Aip1l, Bzrap1, Churc1, Cpne9, Pla2g4b, Tapbpl, Synrg, Rmi2, Tbc1d24, Rin1, Exosc2, Tmem69, Nup133, Sh3rf3, Brip1, Slc7a14, D3Ertad254e, Slc22a15, Ppm1k, Ppp2r2c, A230046K03Rik, Casc4, Dennd5b, Slfn5, Lcmt2, Zyg11b, Mfsd2b, Zfp607, Zfp605, 1700047I17Rik2, AK010878, Gm10778</i> |

Supplementary Table S4 DE miRNA target GO classification ($P<0.0001$)

| Terms | Count | Fold enrichment | P-value | catalogue |
|---|-------|-----------------|-------------------------|---------------------|
| phosphorus metabolic process | 81 | 2.02 | 1.44 x 10 ⁻⁹ | Biology process |
| phosphate metabolic process | 81 | 2.02 | 1.44 x 10 ⁻⁹ | Biology process |
| phosphorylation | 66 | 1.99 | 1.23 x 10 ⁻⁷ | Biology process |
| protein amino acid phosphorylation | 59 | 1.99 | 5.92 x 10 ⁻⁷ | Biology process |
| regulation of MAP kinase activity | 16 | 4.12 | 5.94 x 10 ⁻⁶ | Biology process |
| heart development | 27 | 2.62 | 1.29 x 10 ⁻⁵ | Biology process |
| small GTPase mediated signal transduction | 29 | 2.43 | 2.34 x 10 ⁻⁵ | Biology process |
| regulation of system process | 24 | 2.58 | 5.44 x 10 ⁻⁵ | Biology process |
| intracellular signaling cascade | 69 | 1.63 | 5.87 x 10 ⁻⁵ | Biology process |
| protein kinase cascade | 26 | 2.38 | 9.38 x 10 ⁻⁵ | Biology process |
| synapse | 37 | 2.58 | 3.26 x 10 ⁻⁷ | Cellular components |
| vesicle | 50 | 2.14 | 6.37 x 10 ⁻⁷ | Cellular components |
| membrane-bounded vesicle | 43 | 2.27 | 9.38 x 10 ⁻⁷ | Cellular components |
| cell soma | 20 | 3.80 | 1.05 x 10 ⁻⁶ | Cellular components |
| insoluble fraction | 50 | 2.10 | 1.05 x 10 ⁻⁶ | Cellular components |
| cytoplasmic membrane-bounded vesicle | 42 | 2.25 | 1.62 x 10 ⁻⁶ | Cellular components |

| | | | | |
|-------------------------------|-----|-------------|---|---------------------|
| membrane fraction | 48 | 2.09 | 2.14×10^{-6} | Cellular components |
| plasma membrane | 178 | 1.36 | 2.79×10^{-6} | Cellular components |
| cytoplasmic vesicle | 47 | 2.05 | 4.48×10^{-6} | Cellular components |
| cell fraction | 52 | 1.94 | 6.74×10^{-6} | Cellular components |
| synapse part | 26 | 2.72 | 9.76×10^{-6} | Cellular components |
| plasma membrane part | 110 | 1.50 | 9.90×10^{-6} | Cellular components |
| neuron projection | 28 | 2.54 | 1.51×10^{-5} | Cellular components |
| cell junction | 42 | 1.98 | 3.55×10^{-5} | Cellular components |
| protein kinase activity | 54 | 1.97 | 2.68×10^{-6} | Molecular function |
| cytoskeletal protein binding | 39 | 2.01 | 5.82×10^{-5} | Molecular function |
| ribonucleotide binding | 119 | 1.41 | 6.46×10^{-5} | Molecular function |
| purine ribonucleotide binding | 119 | 1.41 | 6.46×10^{-5} | Molecular function |
| adenyl ribonucleotide binding | 100 | 1.46 | 8.68×10^{-5} | Molecular function |
| ATP binding | 99 | 1.46 | 9.06×10^{-5} | Molecular function |
| metal ion binding | 224 | 1.24 | 9.50×10^{-5} | Molecular function |

Supplementary Table S5 DE miRNA target pathway ($P<0.0001$).

| pathway | count | genes | Fold enrichment | P-value |
|--------------------------------|-------|---|-----------------|-------------------------|
| Neurotrophin signaling pathway | 21 | <i>Irak1, Map2k1, Braf, Camk2g, Rela, Ywhab, Ptpn11, Akt1, Ywhag, Crkl, Mapk14, Ntrk2, Gab1, Pik3ca, Mapk9, Ngfrap1, Abl1, Frs2, Map2k7, Arhgdia, Shc4</i> | 3.37 | 2.75 x 10 ⁻⁶ |
| Pancreatic cancer | 15 | <i>E2f3, Map2k1, Braf, Rela, Tgfbr2, Smad4, Smad3, Stat1, Ralgds, Akt1, Acvr1b, Rac2, Ikbkg, Pik3ca, Mapk9</i> | 4.35 | 5.65 x 10 ⁻⁶ |
| Colorectal cancer | 16 | <i>Dvl2, Map2k1, Braf, Tgfbr2, Smad4, Smad3, Ralgds, Ctnnb1, Akt1, Igf1r, Acvr1b, Casp3, Rac2, Pik3ca, Mapk9, Pdgfrb</i> | 3.88 | 1.06 x 10 ⁻⁵ |
| Chronic myeloid leukemia | 15 | <i>E2f3, Map2k1, Braf, Rela, Tgfbr2, Smad4, Smad3, Ptpn11, Akt1, Acvr1b, Crkl, Ikbkg, Pik3ca, Abl1, Shc4</i> | 4.12 | 1.09 x 10 ⁻⁵ |
| ErbB signaling pathway | 15 | <i>Braf, Map2k1, Camk2g, Prkcb, Akt1, Crkl, Ereg, Nck1, Gab1, Pik3ca, Mapk9, Abl1, Abl2, Map2k7, Shc4</i> | 3.60 | 5.36 x 10 ⁻⁵ |
| MAPK signaling pathway | 27 | <i>Il1r1, Tnf, Ppp3r1, Srf, Map3k7, Akt1, Acvr1b, Casp3, Rac2, Dusp16, Map2k7, Braf, Map2k1, Rela, Ptpn5, Nf1, Tgfbr2, Cacna2d3, Prkcb, Crkl, Mapk14, Ntrk2, Ikbkg, Mapk9, Pdgfrb, Map3k14, Pla2g4b</i> | 2.13 | 3.27 x 10 ⁻⁴ |
| Chemokine signaling pathway | 21 | <i>Adcy1, Map2k1, Braf, Rock2, Adcy5, Rela, Cxcr2, Stat1,</i> | 2.41 | 3.80 x 10 ⁻⁴ |

| | | | | |
|---------------|----|---|------|-------------------------|
| | | <i>Cxcl12, Prkcb, Elmo1, Akt1, Ccr9, Crkl, Rac2, Gnb1, Cx3cr1, Ikbkg, Pik3ca, Shc4, Gng7</i> | | |
| Axon guidance | 17 | <i>Ablim1, Plxna2, Rock2, Ppp3r1, L1cam, Dpysl2, Ephb3, Cxcl12, Eph4, Sema4g, Rac2, Unc5b, Cfl2, Nck1, Efna5, Ab1, Sema4a</i> | 2.71 | 4.55 x 10 ⁻⁴ |
| Apoptosis | 13 | <i>Akt1, Cflar, Irak1, Il1r1, Casp3, Tnfrsf10b, Tnf, Rela, Il1rap, Ikbkg, Ppp3r1, Pik3ca, Map3k14</i> | 3.12 | 7.90 x 10 ⁻⁴ |
