**Supplementary Table 1. Different expression of circRNAs in the brain of APP/PS1 mice (control vs model group, Foldchange > 1.50, *p* < 0.01).**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **circRNA\_ID** | **Gene** | **mmu\_circbase\_id** | **Foldchange** | ***P*-Value** | **FDR** | **N** | **M** |
| chr14\_84532875\_84533695\_+ | Pcdh17 | NA | -155.286 | 3.88E-06 | 0.022668 | 0.743727 | 0 |
| chr1\_39263319\_39300733\_+ | Npas2 | mm9\_circ\_003043 | -6.90833 | 1.66E-05 | 0.027682 | 1.965565 | 0.239323 |
| chr12\_85028770\_85030887\_+ | Ylpm1 | NA | 160.9632 | 2.33E-05 | 0.027682 | 0 | 0.658139 |
| chr1\_140425193\_140450304\_+ | Kcnt2 | NA | -122.224 | 3.05E-05 | 0.027682 | 0.584357 | 0 |
| chr8\_94047272\_94055344\_+ | Ogfod1 | NA | -122.224 | 3.05E-05 | 0.027682 | 0.584357 | 0 |
| chr10\_93208172\_93218089\_+ | Cdk17 | NA | 153.6921 | 3.31E-05 | 0.027682 | 0 | 0.628224 |
| chr7\_34284702\_34285953\_- | 4931406P16Rik | NA | 153.6921 | 3.31E-05 | 0.027682 | 0 | 0.628224 |
| chr5\_72108308\_72122193\_+ | Gabrb1 | NA | -20.107 | 4.56E-05 | 0.031839 | 0.796851 | 0.029915 |
| chr13\_43094749\_43096806\_+ | Phactr1 | NA | -10.1883 | 4.90E-05 | 0.031839 | 1.115591 | 0.089746 |
| chr3\_158104428\_158148699\_- | Lrrc7 | NA | -111.204 | 6.31E-05 | 0.035833 | 0.531234 | 0 |
| chr11\_79546971\_79551134\_+ | Nf1 | NA | 131.8789 | 9.94E-05 | 0.035833 | 0 | 0.538478 |
| chr6\_52609145\_52630349\_- | Hibadh | NA | 131.8789 | 9.94E-05 | 0.035833 | 0 | 0.538478 |
| chr13\_68887959\_68982544\_- | Adcy2 | NA | -5.3959 | 0.000104 | 0.035833 | 1.912442 | 0.299154 |
| chr7\_46427346\_46428279\_+ | Kcnc1 | NA | 10.45731 | 0.00012 | 0.035833 | 0.106247 | 0.987209 |
| chr10\_62633977\_62643372\_- | Ddx50 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr12\_69603476\_69607412\_- | Sos2 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr14\_103282598\_103291362\_- | Mycbp2 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr2\_155432816\_155440785\_- | Ncoa6 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr6\_3551013\_3578915\_+ | Ccdc132 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr8\_10384588\_10413290\_+ | Myo16 | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr9\_59779543\_59843138\_+ | Myo9a | NA | -100.184 | 0.000133 | 0.035833 | 0.47811 | 0 |
| chr12\_5451681\_5452852\_+ | not\_annotated | NA | -6.44307 | 0.000146 | 0.035833 | 1.381208 | 0.179493 |
| chr6\_99626896\_99632412\_- | Eif4e3 | NA | -11.4094 | 0.000154 | 0.035833 | 0.849974 | 0.059831 |
| chr9\_77229485\_77231029\_- | not\_annotated | NA | -11.4094 | 0.000154 | 0.035833 | 0.849974 | 0.059831 |
| chrX\_70358267\_70361131\_- | Ids | NA | -17.4422 | 0.000156 | 0.035833 | 0.690604 | 0.029915 |
| chr10\_108583874\_108691063\_- | Syt1 | NA | -7.72593 | 0.000165 | 0.035833 | 1.115591 | 0.119662 |
| chr15\_81628293\_81628737\_+ | Ep300 | mm9\_circ\_005365 | 15.20551 | 0.000188 | 0.035833 | 0.053123 | 0.747886 |
| chr9\_100834418\_100855904\_+ | Stag1 | NA | 15.20551 | 0.000188 | 0.035833 | 0.053123 | 0.747886 |
| chr1\_136292880\_136304456\_- | Camsap2 | NA | 117.3368 | 0.000214 | 0.035833 | 0 | 0.478647 |
| chr5\_121263885\_121266405\_+ | Gm15800 | NA | 117.3368 | 0.000214 | 0.035833 | 0 | 0.478647 |
| chr5\_89057949\_89199816\_+ | Slc4a4 | NA | 117.3368 | 0.000214 | 0.035833 | 0 | 0.478647 |
| chr7\_37479281\_37493838\_- | Zfp536 | mm9\_circ\_003344 | 117.3368 | 0.000214 | 0.035833 | 0 | 0.478647 |
| chr6\_143029160\_143072694\_- | C2cd5 | NA | 6.109221 | 0.000215 | 0.035833 | 0.265617 | 1.406025 |
| chr9\_77164765\_77190737\_- | Mlip | mm9\_circ\_012617 | -4.50983 | 0.000275 | 0.035833 | 2.071812 | 0.3889 |
| chr10\_5218499\_5222520\_- | not\_annotated | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr11\_79549408\_79553997\_+ | Nf1 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr12\_98942218\_98964607\_+ | Ttc8 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr14\_20556247\_20562242\_- | Usp54 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr19\_48704218\_48713573\_+ | Sorcs3 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr2\_12242411\_12253578\_- | Itga8 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr2\_127465048\_127465978\_- | Kcnip3 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr2\_37627435\_37647285\_- | Strbp | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr2\_70752235\_70786995\_- | Tlk1 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr5\_86022379\_86046580\_- | Cenpc1 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr7\_56982625\_56985163\_- | Gabrg3 | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chrX\_113053062\_113080215\_- | Chm | NA | -89.1632 | 0.000288 | 0.035833 | 0.424987 | 0 |
| chr1\_56831439\_56891265\_- | Satb2 | NA | -16.1098 | 0.000294 | 0.035833 | 0.637481 | 0.029915 |
| chr11\_100596166\_100601816\_- | Dnajc7 | NA | -16.1098 | 0.000294 | 0.035833 | 0.637481 | 0.029915 |
| chr5\_28331111\_28362234\_+ | Rbm33 | NA | 110.0658 | 0.000317 | 0.037108 | 0 | 0.448731 |
| chr6\_99632257\_99640710\_- | Eif4e3 | NA | 110.0658 | 0.000317 | 0.037108 | 0 | 0.448731 |
| chr10\_63289052\_63307909\_+ | Herc4 | NA | -4.07629 | 0.000348 | 0.039178 | 2.443676 | 0.508562 |
| chr5\_18289524\_18291620\_- | Gnai1 | mm9\_circ\_005257 | 9.195018 | 0.000353 | 0.039178 | 0.106247 | 0.867547 |
| chr1\_105691906\_105696596\_+ | 2310035C23Rik | NA | -8.25606 | 0.000355 | 0.039178 | 0.903098 | 0.089746 |
| chr3\_52345039\_52346390\_+ | Foxo1 | NA | 7.287348 | 0.000394 | 0.042628 | 0.15937 | 1.017124 |
| chr1\_164379359\_164403077\_+ | Nme7 | mm9\_circ\_000733 | -9.99128 | 0.000472 | 0.045785 | 0.743727 | 0.059831 |
| chr3\_79172908\_79175049\_- | not\_annotated | NA | 102.7947 | 0.000474 | 0.045785 | 0 | 0.418816 |
| chr6\_116042871\_116134457\_- | Tmcc1 | NA | 102.7947 | 0.000474 | 0.045785 | 0 | 0.418816 |
| chr19\_57751630\_57755618\_+ | Atrnl1 | NA | -3.48987 | 0.000484 | 0.045785 | 3.559267 | 0.867547 |
| chr3\_120769159\_120799747\_- | not\_annotated | NA | -4.3819 | 0.000487 | 0.045785 | 1.859319 | 0.358985 |
| chr19\_29743533\_29786449\_- | 9930021J03Rik | NA | -5.04578 | 0.000503 | 0.045785 | 1.434331 | 0.239323 |
| chr1\_152844036\_152844407\_- | Smg7 | mm9\_circ\_000025 | -14.7774 | 0.000562 | 0.045785 | 0.584357 | 0.029915 |
| chr13\_59460469\_59462173\_- | Agtpbp1 | NA | 8.563872 | 0.000618 | 0.045785 | 0.106247 | 0.807716 |
| chr1\_53865041\_53891260\_- | Hecw2 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr10\_89068100\_89117002\_- | Ano4 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr12\_38427404\_38438734\_+ | Dgkb | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr13\_63871796\_63877533\_+ | Ercc6l2 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr13\_94528165\_94547893\_+ | Ap3b1 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr14\_16818690\_16819151\_- | Rarb | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr17\_26742042\_26759949\_+ | Crebrf | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr17\_64624528\_64651323\_+ | Man2a1 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr17\_66809466\_66817977\_- | Ptprm | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr17\_88549494\_88572755\_+ | Ppp1r21 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr2\_113426525\_113529463\_+ | Fmn1 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr2\_113426525\_113636824\_+ | Fmn1 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr3\_146737934\_146748047\_- | Prkacb | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr3\_56019366\_56058830\_- | Nbea | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr3\_79169739\_79210747\_- | not\_annotated | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr4\_99212577\_99224550\_+ | Atg4c | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr5\_81646410\_81741146\_+ | Lphn3 | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr6\_37048120\_37064013\_- | Dgki | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr7\_60785638\_60902712\_- | not\_annotated | NA | -78.1428 | 0.000639 | 0.045785 | 0.371864 | 0 |
| chr10\_49355909\_49422672\_- | Grik2 | NA | 4.193621 | 0.000642 | 0.045785 | 0.531234 | 1.914587 |
| chr2\_58934369\_58983007\_- | Ccdc148 | NA | -5.92709 | 0.000707 | 0.049253 | 1.062468 | 0.149577 |
| chr19\_37309788\_37315517\_- | Ide | NA | 95.52368 | 0.000716 | 0.049253 | 0 | 0.3889 |
| chr3\_125914638\_125915461\_- | Ugt8a | NA | 95.52368 | 0.000716 | 0.049253 | 0 | 0.3889 |
| chr14\_12418005\_12454319\_- | Cadps | NA | -9.28222 | 0.00084 | 0.056451 | 0.690604 | 0.059831 |
| chr15\_62102345\_62107465\_+ | Pvt1 | NA | -9.28222 | 0.00084 | 0.056451 | 0.690604 | 0.059831 |
| chr11\_107110813\_107111635\_- | Bptf | NA | 5.201992 | 0.000909 | 0.060402 | 0.265617 | 1.196617 |
| chr6\_54173464\_54220702\_+ | Chn2 | NA | 12.18105 | 0.000939 | 0.061737 | 0.053123 | 0.598308 |
| chr9\_96602713\_96611499\_- | Rasa2 | mm9\_circ\_004870 | -3.86921 | 0.001048 | 0.064162 | 1.912442 | 0.418816 |
| chr10\_83313415\_83316789\_- | Slc41a2 | NA | 88.25263 | 0.00109 | 0.064162 | 0 | 0.358985 |
| chr14\_73362961\_73368427\_- | Itm2b | NA | 88.25263 | 0.00109 | 0.064162 | 0 | 0.358985 |
| chrX\_157990108\_157999429\_- | Cnksr2 | NA | 88.25263 | 0.00109 | 0.064162 | 0 | 0.358985 |
| chr11\_5329879\_5338763\_- | Znrf3 | mm9\_circ\_007732 | -13.445 | 0.001091 | 0.064162 | 0.531234 | 0.029915 |
| chr7\_132948044\_132973623\_+ | Zranb1 | mm9\_circ\_016232 | 7.932726 | 0.001092 | 0.064162 | 0.106247 | 0.747886 |
| chr13\_63398083\_63403038\_- | Fancc | NA | 11.57616 | 0.001313 | 0.064162 | 0.053123 | 0.568393 |
| chr8\_86631386\_86673069\_+ | Lonp2 | NA | -3.26137 | 0.001372 | 0.064162 | 2.868663 | 0.747886 |
| chr1\_87364104\_87365279\_+ | Gigyf2 | NA | 6.219997 | 0.001391 | 0.064162 | 0.15937 | 0.867547 |
| chr1\_178096590\_178122812\_+ | not\_annotated | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr1\_191454047\_191465550\_- | not\_annotated | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr1\_63277931\_63295046\_+ | Zdbf2 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr10\_26302653\_26352375\_- | L3mbtl3 | mm9\_circ\_011517 | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr10\_4301020\_4310320\_- | not\_annotated | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr10\_75261794\_75274100\_+ | Specc1l | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr11\_65976337\_65990535\_- | Dnah9 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr13\_88874553\_88878181\_+ | not\_annotated | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr14\_18586851\_18630431\_- | Ube2e2 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr14\_31715234\_31748843\_- | Ankrd28 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr14\_79580185\_79580789\_+ | Elf1 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr15\_35834184\_35847007\_+ | Vps13b | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr16\_56138985\_56173273\_+ | Senp7 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr16\_63772910\_63836437\_- | Epha3 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr17\_66257932\_66262475\_- | not\_annotated | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr18\_75605628\_75611779\_- | Ctif | mm9\_circ\_011228 | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr19\_27837407\_27900903\_- | Rfx3 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr19\_38865616\_38917972\_+ | Tbc1d12 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr2\_161810550\_161812136\_- | Ptprt | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr3\_36948517\_36965026\_+ | 4932438A13Rik | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr4\_11218612\_11248311\_- | Ints8 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr4\_143162056\_143194734\_- | Prdm2 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr4\_57244975\_57270177\_- | Ptpn3 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr4\_87840682\_87880148\_- | Mllt3 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr5\_121665099\_121672198\_+ | Brap | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr5\_137795491\_137801096\_+ | Zcwpw1 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr5\_142969905\_142970685\_+ | Fscn1 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr5\_48481937\_48509760\_- | Kcnip4 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr6\_30088833\_30102309\_+ | Nrf1 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr8\_10265435\_10272797\_+ | Myo16 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr8\_72579563\_72581272\_+ | Tmem38a | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr8\_77344640\_77450923\_- | Arhgap10 | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr9\_44828784\_44829268\_- | Kmt2a | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr9\_99101175\_99122376\_- | Pik3cb | NA | -67.1224 | 0.001457 | 0.064162 | 0.31874 | 0 |
| chr7\_24228048\_24229840\_- | Zfp109 | mm9\_circ\_008755 | 7.617153 | 0.001459 | 0.064162 | 0.106247 | 0.71797 |
| chr10\_9778021\_9800068\_- | Stxbp5 | NA | -8.57315 | 0.001507 | 0.064338 | 0.637481 | 0.059831 |
| chr11\_90257520\_90267581\_+ | Mmd | NA | -8.57315 | 0.001507 | 0.064338 | 0.637481 | 0.059831 |
| chr5\_81646410\_81694627\_+ | Lphn3 | mm9\_circ\_018693 | -8.57315 | 0.001507 | 0.064338 | 0.637481 | 0.059831 |
| chr7\_84343742\_84354567\_- | Arnt2 | mm9\_circ\_012725 | -8.57315 | 0.001507 | 0.064338 | 0.637481 | 0.059831 |
| chr9\_24473774\_24485729\_- | Dpy19l1 | mm9\_circ\_006204 | -3.57752 | 0.00156 | 0.066099 | 2.018689 | 0.478647 |
| chr8\_77384751\_77411128\_- | Arhgap10 | NA | -2.94882 | 0.001644 | 0.066467 | 4.143624 | 1.196617 |
| chr11\_16981801\_16995355\_- | Plek | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr12\_65105028\_65114018\_+ | Fancm | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr3\_56040854\_56082491\_- | Nbea | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr5\_113558349\_113561085\_+ | Wscd2 | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr6\_54218524\_54220702\_+ | Chn2 | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr8\_85870152\_85879810\_+ | Phkb | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chrX\_151565372\_151599584\_+ | Phf8 | NA | 80.98158 | 0.001675 | 0.066467 | 0 | 0.32907 |
| chr12\_38173727\_38228123\_+ | Dgkb | NA | -6.80684 | 0.001689 | 0.066467 | 0.743727 | 0.089746 |
| chr18\_21008725\_21020999\_+ | Rnf138 | NA | -5.89433 | 0.001735 | 0.066467 | 0.849974 | 0.119662 |
| chr17\_43037595\_43040189\_+ | Tnfrsf21 | NA | 6.006527 | 0.001802 | 0.066467 | 0.15937 | 0.837632 |
| chr3\_59037560\_59042413\_+ | Med12l | NA | -4.05031 | 0.001825 | 0.066467 | 1.434331 | 0.299154 |
| chr11\_20703711\_20709746\_- | Aftph | mm9\_circ\_009096 | 10.97126 | 0.001844 | 0.066467 | 0.053123 | 0.538478 |
| chr10\_42196466\_42197901\_- | Foxo3 | NA | 7.30158 | 0.001955 | 0.066467 | 0.106247 | 0.688055 |
| chr4\_6822905\_6842426\_- | Tox | mm9\_circ\_001129 | -4.16183 | 0.001972 | 0.066467 | 1.328085 | 0.269239 |
| chr16\_14127056\_14140372\_- | Marf1 | NA | -12.1126 | 0.002146 | 0.066467 | 0.47811 | 0.029915 |
| chr16\_36886131\_36907895\_+ | Golgb1 | NA | -12.1126 | 0.002146 | 0.066467 | 0.47811 | 0.029915 |
| chr3\_146463185\_146493843\_- | Spata1 | NA | -12.1126 | 0.002146 | 0.066467 | 0.47811 | 0.029915 |
| chr6\_3565516\_3571108\_+ | Ccdc132 | NA | -12.1126 | 0.002146 | 0.066467 | 0.47811 | 0.029915 |
| chr9\_55874645\_55895382\_- | Scaper | NA | -12.1126 | 0.002146 | 0.066467 | 0.47811 | 0.029915 |
| chr10\_5403841\_5426275\_- | Syne1 | mm9\_circ\_001767 | 2.555928 | 0.002591 | 0.066467 | 4.302994 | 9.393442 |
| chr1\_139101968\_139144000\_+ | Dennd1b | NA | 10.36637 | 0.002602 | 0.066467 | 0.053123 | 0.508562 |
| chr14\_45205342\_45213524\_- | Txndc16 | NA | 10.36637 | 0.002602 | 0.066467 | 0.053123 | 0.508562 |
| chr10\_107045213\_107053516\_- | Acss3 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr12\_52880639\_52888063\_+ | Akap6 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr13\_76822973\_76891614\_+ | Mctp1 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr14\_21234833\_21240571\_+ | Adk | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr16\_89860205\_89867734\_- | Tiam1 | mm9\_circ\_000811 | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr18\_63738743\_63760785\_+ | Wdr7 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr5\_34420001\_34466447\_+ | Fam193a | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr5\_76609631\_76637071\_+ | Cep135 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr6\_134506196\_134520593\_- | Lrp6 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr7\_98979636\_99016674\_- | Uvrag | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr9\_22024674\_22036857\_- | Elavl3 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr9\_78457210\_78458047\_+ | Mto1 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr9\_99040921\_99042669\_- | Pik3cb | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chrX\_94252415\_94253126\_+ | Klhl15 | NA | 73.71052 | 0.002603 | 0.066467 | 0 | 0.299154 |
| chr14\_99186481\_99211070\_+ | Pibf1 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr15\_98805044\_98805224\_- | Ddn | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr16\_31743106\_31797010\_+ | Dlg1 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr5\_117616832\_117671501\_+ | Ksr2 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr6\_71552399\_71579836\_+ | Chmp3 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr8\_91299229\_91305017\_- | Rpgrip1l | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr11\_6313788\_6324922\_+ | Ogdh | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr12\_84292284\_84298202\_+ | Ptgr2 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr12\_89976347\_90204818\_+ | Nrxn3 | NA | -7.86408 | 0.002729 | 0.066467 | 0.584357 | 0.059831 |
| chr2\_12355277\_12386679\_- | Fam188a | NA | -5.52802 | 0.00282 | 0.066467 | 0.796851 | 0.119662 |
| chrX\_120399402\_120401897\_+ | Pcdh11x | NA | -5.52802 | 0.00282 | 0.066467 | 0.796851 | 0.119662 |
| chrX\_151547395\_151556135\_+ | Phf8 | NA | -6.32377 | 0.002878 | 0.066467 | 0.690604 | 0.089746 |
| chr5\_23979488\_23991837\_- | Fam126a | NA | -4.26627 | 0.003414 | 0.066467 | 1.062468 | 0.209408 |
| chr1\_119706155\_119726096\_- | Ptpn4 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_134607688\_134619698\_+ | Kdm5b | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_158520444\_158580361\_+ | Astn1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_165399654\_165429315\_- | Dcaf6 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_174736294\_174744306\_+ | Fmn2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_180093944\_180117743\_+ | Cdc42bpa | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_181190303\_181190739\_- | not\_annotated | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_39287468\_39300733\_+ | Npas2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_60105311\_60109449\_+ | Carf | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_66322404\_66380773\_+ | Map2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_78443635\_78472634\_- | Farsb | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr1\_93052424\_93060817\_- | Kif1a | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr10\_10741436\_10782794\_- | Grm1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr10\_122622301\_122650433\_- | not\_annotated | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr10\_127452692\_127459575\_+ | R3hdm2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr10\_45588380\_45605584\_+ | Hace1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr10\_81108748\_81118229\_+ | Map2k2 | mm9\_circ\_000870 | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr11\_66017365\_66037736\_- | Dnah9 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr11\_72189548\_72198963\_- | 4933427D14Rik | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr11\_77563664\_77585494\_- | Taok1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr11\_97226729\_97238258\_- | Npepps | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr11\_98821431\_98823399\_+ | Casc3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr12\_103141772\_103149081\_+ | Unc79 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr12\_36521433\_36550451\_+ | Ispd | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr12\_40621221\_40676790\_+ | Dock4 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr12\_98227168\_98234397\_- | Galc | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr12\_98783582\_98805247\_+ | Zc3h14 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr13\_13725814\_13730481\_+ | Lyst | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr13\_52506266\_52506621\_- | Diras2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr13\_54758275\_54760371\_- | Sncb | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr13\_68982347\_68982544\_- | Adcy2 | mm9\_circ\_018195 | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr13\_9550184\_9553471\_+ | Dip2c | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_105150253\_105160613\_- | Rbm26 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_20569114\_20573901\_- | Usp54 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_23336040\_23449211\_- | Kcnma1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_31363479\_31373824\_+ | Capn7 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_62900255\_62934402\_+ | Wdfy2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_70235140\_70240981\_- | Ppp3cc | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr14\_73366321\_73368427\_- | Itm2b | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr15\_82169738\_82172899\_+ | Srebf2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_13566570\_13640330\_- | Parn | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_13843771\_13845423\_- | Pdxdc1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_17015898\_17038439\_+ | Mapk1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_63595558\_63612974\_- | Epha3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_72742126\_72935786\_+ | Robo1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr16\_91651630\_91664822\_+ | Son | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr17\_30481014\_30530365\_- | Btbd9 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr17\_3448378\_3454351\_+ | Tiam2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr17\_62686016\_62689139\_- | not\_annotated | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr17\_84334026\_84336882\_- | Thada | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr18\_10582055\_10595875\_- | Esco1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr18\_82656949\_82658206\_- | Zfp236 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr19\_26619684\_26683922\_+ | Smarca2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr19\_32247994\_32269981\_- | Sgms1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr19\_34821100\_34841109\_- | Pank1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr19\_4288412\_4290871\_- | Adrbk1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr19\_48704218\_48722997\_+ | Sorcs3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_110665832\_110698020\_- | Ano3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_126574702\_126588044\_+ | Slc27a2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_129629963\_129630556\_+ | Sirpa | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_35889265\_35944959\_- | Ttll11 | mm9\_circ\_017990 | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_37586510\_37647285\_- | Strbp | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_59968627\_60006189\_- | Baz2b | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_68263235\_68369105\_- | Stk39 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr2\_91546322\_91550758\_+ | Ckap5 | mm9\_circ\_014001 | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr3\_100578476\_100632598\_- | Man1a2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr3\_109562743\_109578364\_+ | Vav3 | mm9\_circ\_014582 | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr3\_158084456\_158135405\_- | Lrrc7 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr3\_75527588\_75533594\_- | Pdcd10 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr3\_95341334\_95345599\_- | Setdb1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_102852883\_102870724\_+ | Sgip1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_104479074\_104613267\_+ | Dab1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_109343284\_109385562\_+ | Eps15 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_125089875\_125090147\_+ | Meaf6 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_137321119\_137336129\_- | Cdc42 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_150431523\_150500051\_+ | Rere | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_155075589\_155082754\_- | Rer1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_33040733\_33045199\_+ | Ube2j1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_86774238\_86781711\_+ | Dennd4c | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr4\_89148189\_89156613\_+ | Mtap | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_112941633\_112969269\_- | Adrbk2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_113550423\_113561085\_+ | Wscd2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_122540304\_122551203\_- | Ift81 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_123617336\_123623270\_- | Clip1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_147521830\_147531307\_+ | Pan3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
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| chr5\_34420001\_34485848\_+ | Fam193a | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_66993143\_67002649\_+ | Limch1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_67647693\_67779033\_- | Atp8a1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_93138438\_93148582\_+ | 11-Sep | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_9511458\_9512524\_- | Grm3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
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| chr6\_149005166\_149009900\_- | Dennd5b | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr6\_23287664\_23528163\_- | Cadps2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr6\_55276554\_55284813\_+ | Fam188b | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr6\_86710399\_86711679\_- | Gmcl1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr7\_19643052\_19655830\_- | Clptm1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr7\_57488802\_57508138\_- | Gabra5 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr7\_6392182\_6399915\_+ | Zfp28 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_10384588\_10442359\_+ | Myo16 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_123264995\_123267699\_+ | Zfp276 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_125801461\_125892032\_- | Pcnxl2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_22211538\_22217209\_+ | Vps36 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_85875634\_85942389\_+ | Phkb | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr8\_95746973\_95749074\_- | Cnot1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_121073918\_121145386\_- | Ulk4 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_27069668\_27089377\_+ | Ncapd3 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_36923584\_36987272\_- | Pknox2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_41393194\_41402263\_+ | 3110039I08Rik | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_49062193\_49066842\_+ | Zw10 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_54883897\_54906923\_+ | Ireb2 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_58955959\_58985876\_- | Neo1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_59779543\_59912590\_+ | Myo9a | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr9\_6967080\_6996939\_- | Dync2h1 | NA | -56.102 | 0.003432 | 0.066467 | 0.265617 | 0 |
| chr5\_23979488\_24000019\_- | Fam126a | NA | -3.18303 | 0.003499 | 0.067414 | 2.018689 | 0.538478 |
| chr13\_93341756\_93356079\_+ | Homer1 | mm9\_circ\_010239 | -2.68933 | 0.003544 | 0.067414 | 4.249871 | 1.346194 |
| chr16\_90950351\_90969374\_- | Synj1 | NA | 9.761477 | 0.00369 | 0.067414 | 0.053123 | 0.478647 |
| chr11\_51598276\_51599596\_+ | Phykpl | NA | 9.761477 | 0.00369 | 0.067414 | 0.053123 | 0.478647 |
| chr6\_71505734\_71510220\_+ | Rnf103 | NA | 3.680862 | 0.003754 | 0.067414 | 0.424987 | 1.346194 |
| chr16\_81432709\_81443271\_+ | Ncam2 | NA | -4.46748 | 0.003789 | 0.067414 | 0.956221 | 0.179493 |
| chr9\_77216977\_77230954\_- | not\_annotated | NA | -3.19189 | 0.003863 | 0.067414 | 1.912442 | 0.508562 |
| chr8\_114230206\_114236798\_+ | Vat1l | NA | 5.366116 | 0.003968 | 0.067414 | 0.15937 | 0.747886 |
| chr9\_110547209\_110553234\_+ | Setd2 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr1\_179961044\_180139804\_+ | Cdc42bpa | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr1\_84738678\_84739656\_- | Trip12 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr1\_91376318\_91387341\_- | Ilkap | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr10\_90523429\_90680919\_+ | Anks1b | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr11\_120116865\_120129312\_- | Slc38a10 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr11\_20238466\_20242238\_- | Cep68 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr14\_122658678\_122714125\_+ | Pcca | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr14\_122971740\_122973285\_- | Tmtc4 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr14\_14013073\_14013655\_+ | Atxn7 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr15\_44380060\_44420873\_- | Nudcd1 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr16\_31805614\_31812824\_+ | Dlg1 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr16\_70433545\_70441319\_+ | Gbe1 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr17\_78820621\_78831585\_- | Heatr5b | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr2\_155292690\_155331258\_- | Pigu | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr2\_167510876\_167511326\_+ | Rnf114 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr2\_18071125\_18126229\_+ | Mllt10 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr2\_37936619\_38136975\_- | Dennd1a | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr2\_62158206\_62234569\_+ | Slc4a10 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr3\_107445430\_107448440\_- | Kcnc4 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr3\_120772682\_120805493\_- | not\_annotated | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr3\_122947361\_122969249\_- | Usp53 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr4\_41216566\_41235594\_- | Ubap2 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr4\_48208697\_48219527\_- | Erp44 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr4\_65381456\_65397058\_- | Astn2 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr5\_19273640\_19278693\_+ | not\_annotated | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr5\_67705906\_67751085\_- | Atp8a1 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr5\_76254374\_76274043\_- | Clock | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr6\_83942834\_83962108\_+ | Zfml | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr7\_78191650\_78260414\_- | Ntrk3 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr8\_105663754\_105666792\_+ | Ctcf | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr8\_114230206\_114284389\_+ | Vat1l | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr8\_11785713\_11786260\_+ | Arhgef7 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr8\_45792781\_45823835\_+ | Sorbs2 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_101114507\_101145790\_+ | not\_annotated | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_22643745\_22812543\_+ | Bbs9 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_55377480\_55400647\_+ | AI118078 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_63286399\_63303160\_- | Map2k5 | mm9\_circ\_012141 | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_64501523\_64508808\_+ | Megf11 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_65034875\_65078785\_+ | Dpp8 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_83398512\_83426961\_- | Lca5 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr9\_96839086\_96840117\_- | Pxylp1 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chrX\_13157669\_13158944\_+ | Usp9x | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chrX\_142752040\_142834341\_+ | Tmem164 | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chrX\_94098307\_94114263\_- | Zfx | NA | 66.43947 | 0.004092 | 0.067414 | 0 | 0.269239 |
| chr1\_6807543\_6828021\_+ | St18 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr1\_8414203\_8448132\_- | Sntg1 | mm9\_circ\_001517 | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr12\_82384651\_82403179\_+ | Sipa1l1 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr16\_33204672\_33206002\_+ | Osbpl11 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr18\_71321031\_71342777\_- | Dcc | mm9\_circ\_006690 | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr5\_148505997\_148512002\_- | Ubl3 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr5\_16299929\_16320158\_+ | Cacna2d1 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr5\_23507405\_23565265\_- | Srpk2 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr6\_76915734\_77143943\_- | Ctnna2 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr9\_55162968\_55195519\_+ | Ube2q2 | NA | -10.7801 | 0.004284 | 0.068644 | 0.424987 | 0.029915 |
| chr10\_109816254\_109824681\_- | Nav3 | mm9\_circ\_005597 | -3.92825 | 0.004456 | 0.071021 | 1.115591 | 0.239323 |
| chr15\_91786966\_91814733\_+ | Lrrk2 | NA | -3.92825 | 0.004456 | 0.071021 | 1.115591 | 0.239323 |
| chr12\_50419853\_50428234\_- | Prkd1 | NA | -5.1617 | 0.004603 | 0.072963 | 0.743727 | 0.119662 |
| chr6\_65855949\_65901859\_+ | Prdm5 | NA | -5.1617 | 0.004603 | 0.072963 | 0.743727 | 0.119662 |
| chr10\_29196265\_29199280\_+ | Soga3 | NA | 6.354861 | 0.004789 | 0.075453 | 0.106247 | 0.598308 |
| chr17\_79650302\_79672573\_+ | Rmdn2 | NA | 6.354861 | 0.004789 | 0.075453 | 0.106247 | 0.598308 |
| chr5\_20543585\_20569354\_+ | Magi2 | mm9\_circ\_011587 | -3.2131 | 0.004799 | 0.075453 | 1.699948 | 0.448731 |
| chr11\_29498409\_29504311\_+ | Ccdc88a | NA | -5.8407 | 0.004933 | 0.076558 | 0.637481 | 0.089746 |
| chr12\_61839408\_61851035\_+ | Lrfn5 | NA | -5.8407 | 0.004933 | 0.076558 | 0.637481 | 0.089746 |
| chr10\_45670346\_45686733\_+ | Hace1 | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr12\_109718114\_109718499\_+ | not\_annotated | mm9\_circ\_016120 | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr13\_55034889\_55060342\_- | Uimc1 | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr17\_55496292\_55498406\_+ | St6gal2 | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr5\_23450152\_23486400\_+ | Kmt2e | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr6\_37029763\_37064013\_- | Dgki | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr9\_10168768\_10172122\_- | Cntn5 | NA | -7.15501 | 0.004987 | 0.076558 | 0.531234 | 0.059831 |
| chr8\_36937560\_36938758\_- | Dlc1 | mm9\_circ\_011180 | -4.05392 | 0.005058 | 0.077441 | 1.009344 | 0.209408 |
| chr10\_105369950\_105370778\_- | Tmtc2 | NA | 5.152646 | 0.005185 | 0.078769 | 0.15937 | 0.71797 |
| chr10\_116937397\_116939481\_- | Rab3ip | NA | 5.152646 | 0.005185 | 0.078769 | 0.15937 | 0.71797 |
| chr15\_23173451\_23226977\_+ | Cdh18 | NA | 5.152646 | 0.005185 | 0.078769 | 0.15937 | 0.71797 |
| chr18\_61839690\_61857185\_- | Ablim3 | NA | 9.156584 | 0.00526 | 0.079497 | 0.053123 | 0.448731 |
| chr5\_89129639\_89179844\_+ | Slc4a4 | NA | 9.156584 | 0.00526 | 0.079497 | 0.053123 | 0.448731 |
| chr12\_77331896\_77365359\_+ | Fut8 | NA | 2.900655 | 0.005295 | 0.079826 | 0.903098 | 2.243657 |
| chr14\_45244155\_45246516\_+ | Gpr137c | mm9\_circ\_002142 | 2.916908 | 0.005627 | 0.084611 | 0.849974 | 2.123995 |
| chr8\_16023739\_16037308\_- | Csmd1 | mm9\_circ\_003539 | -2.94217 | 0.005663 | 0.084934 | 2.071812 | 0.598308 |
| chr2\_113426522\_113478963\_+ | Fmn1 | NA | -4.22053 | 0.00577 | 0.08599 | 0.903098 | 0.179493 |
| chr12\_24878191\_24924294\_+ | Mboat2 | mm9\_circ\_013240 | -2.59818 | 0.005939 | 0.08599 | 3.559267 | 1.166701 |
| chr16\_63772910\_63773570\_- | Epha3 | mm9\_circ\_017801 | 3.348537 | 0.005945 | 0.08599 | 0.47811 | 1.376109 |
| chr3\_26133242\_26134052\_- | Nlgn1 | NA | -2.51183 | 0.00604 | 0.08599 | 4.409241 | 1.495771 |
| chr13\_93341756\_93349297\_+ | Homer1 | NA | -3.24078 | 0.006141 | 0.08599 | 1.487455 | 0.3889 |
| chr2\_156524881\_156525288\_+ | Epb4.1l1 | NA | 6.039288 | 0.006494 | 0.08599 | 0.106247 | 0.568393 |
| chr9\_110026101\_110036855\_+ | Map4 | NA | 6.039288 | 0.006494 | 0.08599 | 0.106247 | 0.568393 |
| chr1\_155846798\_155848727\_- | Cep350 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr1\_174666643\_174719937\_+ | Fmn2 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr1\_192413017\_192434919\_+ | Kcnh1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr1\_40004807\_40014697\_+ | Map4k4 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr10\_9835834\_9866680\_- | Stxbp5 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr10\_99675578\_99691798\_+ | not\_annotated | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr11\_33264636\_33318347\_- | Ranbp17 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr11\_4527836\_4531305\_- | Mtmr3 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr11\_50071171\_50095980\_+ | Rnf130 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr11\_90535480\_90600280\_- | Stxbp4 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr12\_118125739\_118157397\_- | Dnah11 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr12\_90204511\_90283659\_+ | Nrxn3 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr13\_106865865\_106886757\_- | Ipo11 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr13\_6552634\_6556702\_+ | Pitrm1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr14\_26608090\_26612061\_+ | Dennd6a | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr14\_56941998\_56944237\_+ | Zmym2 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr15\_100955410\_100959694\_+ | Scn8a | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr16\_38241282\_38242145\_+ | Gsk3b | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr17\_70786788\_70787209\_+ | Dlgap1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr17\_74217027\_74258505\_- | Memo1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr17\_74668759\_74670382\_+ | Birc6 | mm9\_circ\_013298 | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr17\_80241952\_80273110\_- | Dhx57 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr18\_20865950\_20867853\_- | Trappc8 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr18\_33874142\_33891476\_- | Epb4.1l4a | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr18\_80434166\_80460013\_- | Ctdp1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr18\_84558327\_84563046\_- | Zfp407 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr18\_89026959\_89048520\_+ | Rttn | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr2\_140181574\_140193643\_+ | Ndufaf5 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr2\_59644324\_59724849\_+ | Tanc1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr3\_120797196\_120799747\_- | not\_annotated | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr3\_55665574\_55710739\_- | Nbea | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr3\_59068242\_59077169\_+ | Med12l | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr4\_43091228\_43115160\_+ | Unc13b | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr4\_58861525\_58879134\_- | AI314180 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr5\_115166868\_115169148\_- | Cabp1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr5\_115166868\_115173224\_- | Cabp1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr6\_134479509\_134513419\_- | Lrp6 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr6\_22132229\_22145687\_+ | Cped1 | mm9\_circ\_015231 | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr6\_99529708\_99651791\_- | Eif4e3 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr7\_7181233\_7188122\_+ | Zfp418 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr8\_110815903\_110817718\_- | Sf3b3 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr9\_106964707\_106978774\_- | Dock3 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr9\_14571623\_14575439\_- | Amotl1 | mm9\_circ\_000340 | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr9\_59801914\_59815378\_+ | Myo9a | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chrX\_71287152\_71299774\_+ | Mtm1 | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chrX\_85730202\_85746301\_- | Gyk | NA | 59.16842 | 0.006513 | 0.08599 | 0 | 0.239323 |
| chr11\_79425513\_79475883\_+ | Nf1 | NA | 4.376918 | 0.006671 | 0.087874 | 0.212494 | 0.807716 |
| chr8\_73214125\_73340286\_- | Large | NA | -3.25804 | 0.007038 | 0.092507 | 1.381208 | 0.358985 |
| chr8\_39063191\_39071516\_+ | Tusc3 | mm9\_circ\_003872 | -3.11875 | 0.007126 | 0.093447 | 1.540578 | 0.418816 |
| chr3\_29148347\_29153601\_+ | Egfem1 | mm9\_circ\_010647 | -3.014 | 0.007144 | 0.093476 | 1.699948 | 0.478647 |
| chr10\_121288880\_121306883\_- | Tbc1d30 | mm9\_circ\_017963 | -3.84157 | 0.007504 | 0.096871 | 0.956221 | 0.209408 |
| chr12\_13285183\_13310304\_+ | Nbas | mm9\_circ\_015179 | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr13\_106982524\_106988075\_- | Kif2a | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr19\_57132862\_57155335\_- | Ablim1 | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr2\_18159456\_18197997\_+ | Mllt10 | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr2\_181631435\_181632087\_+ | Prpf6 | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr7\_78247155\_78462942\_- | Ntrk3 | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chrX\_147480257\_147492087\_- | Lrch2 | NA | 8.551692 | 0.007536 | 0.096871 | 0.053123 | 0.418816 |
| chr13\_55245518\_55248077\_+ | Nsd1 | NA | 3.354671 | 0.007631 | 0.097876 | 0.424987 | 1.226532 |
| chr5\_3722546\_3772787\_- | Ankib1 | NA | -3.27839 | 0.008147 | 0.099186 | 1.274961 | 0.32907 |
| chr8\_77344640\_77358634\_- | Arhgap10 | NA | -3.01285 | 0.008155 | 0.099186 | 1.593702 | 0.448731 |
| chr13\_8844787\_8861265\_- | Wdr37 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr11\_72728761\_72738456\_+ | Ankfy1 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr11\_97217791\_97238258\_- | Npepps | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr13\_45723236\_45956575\_- | Atxn1 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr15\_91401754\_91412217\_- | Slc2a13 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr16\_62827164\_62830813\_- | Arl13b | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr2\_103771697\_103778100\_- | Caprin1 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr2\_58823244\_58829867\_- | Ccdc148 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr2\_68220904\_68410141\_- | Stk39 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr3\_108480976\_108482478\_- | 5330417C22Rik | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr4\_126889515\_126915665\_- | Zmym4 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr5\_103501367\_103501912\_+ | Ptpn13 | mm9\_circ\_012843 | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr5\_141609995\_141613240\_+ | Sdk1 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr5\_19999442\_20065671\_+ | Magi2 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr5\_20195021\_20228451\_+ | Magi2 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr5\_88614941\_88617436\_+ | Rufy3 | mm9\_circ\_010480 | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr7\_96703926\_96729525\_+ | Tenm4 | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr9\_72842695\_72858949\_+ | Prtg | NA | -45.0816 | 0.008389 | 0.099186 | 0.212494 | 0 |
| chr12\_6045162\_6046744\_+ | not\_annotated | NA | -5.35763 | 0.008501 | 0.099186 | 0.584357 | 0.089746 |
| chr2\_106699288\_106783858\_+ | Mpped2 | NA | -5.35763 | 0.008501 | 0.099186 | 0.584357 | 0.089746 |
| chr2\_49272041\_49313725\_+ | Mbd5 | NA | -5.35763 | 0.008501 | 0.099186 | 0.584357 | 0.089746 |
| chr12\_101932968\_101948439\_- | Atxn3 | NA | 4.215631 | 0.008513 | 0.099186 | 0.212494 | 0.777801 |
| chr2\_18122245\_18146872\_+ | Mllt10 | NA | 4.215631 | 0.008513 | 0.099186 | 0.212494 | 0.777801 |
| chr8\_25640577\_25666156\_+ | Whsc1l1 | NA | 2.954238 | 0.008638 | 0.099186 | 0.637481 | 1.615433 |
| chr1\_110048817\_110052968\_+ | Cdh7 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr1\_119691601\_119765922\_- | Ptpn4 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr1\_128211205\_128231467\_+ | R3hdm1 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr11\_35883248\_35898695\_- | Wwc1 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr12\_3643917\_3648389\_+ | Dtnb | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr12\_38139405\_38173843\_+ | Dgkb | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr12\_38147503\_38190134\_+ | Dgkb | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr13\_106812208\_106847459\_- | Ipo11 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr18\_30316843\_30324618\_+ | Pik3c3 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr2\_91600641\_91601126\_+ | Ckap5 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr3\_94524186\_94562284\_- | Snx27 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr4\_57218509\_57225900\_- | Ptpn3 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr7\_75117423\_75149088\_- | Sv2b | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chrX\_113064847\_113140786\_- | Chm | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chrY\_1151948\_1158634\_- | Uty | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr10\_20023608\_20082468\_+ | Map3k5 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr2\_90859476\_90861449\_+ | Mtch2 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr3\_87926731\_87928048\_- | Rrnad1 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr7\_130503722\_130513824\_- | Ate1 | NA | -9.44774 | 0.008678 | 0.099186 | 0.371864 | 0.029915 |
| chr1\_75194841\_75196669\_+ | Ankzf1 | mm9\_circ\_015463 | -3.97358 | 0.008805 | 0.099186 | 0.849974 | 0.179493 |
| chr8\_64811680\_64834568\_- | Klhl2 | mm9\_circ\_016108 | -3.97358 | 0.008805 | 0.099186 | 0.849974 | 0.179493 |
| chrX\_10164722\_10202165\_- | Rpgr | NA | -3.97358 | 0.008805 | 0.099186 | 0.849974 | 0.179493 |
| chr10\_14055392\_14066684\_+ | Hivep2 | NA | 5.723715 | 0.008834 | 0.099186 | 0.106247 | 0.538478 |
| chr11\_106248347\_106248622\_+ | Ddx42 | NA | 5.723715 | 0.008834 | 0.099186 | 0.106247 | 0.538478 |
| chr13\_54523970\_54529223\_+ | Simc1 | NA | 5.723715 | 0.008834 | 0.099186 | 0.106247 | 0.538478 |
| chr5\_20789629\_20794481\_- | Phtf2 | NA | 4.725705 | 0.008903 | 0.099186 | 0.15937 | 0.658139 |
| chr1\_116428472\_116455217\_+ | Cntnap5a | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr10\_25441573\_25443954\_+ | Epb4.1l2 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr10\_5061389\_5075947\_- | Syne1 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr12\_52795837\_52796200\_+ | Akap6 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr12\_75087405\_75131026\_- | Kcnh5 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr13\_36232122\_36246494\_+ | Fars2 | mm9\_circ\_012541 | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr17\_6106392\_6185298\_+ | Tulp4 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr2\_6615688\_6721613\_- | Celf2 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr3\_100632504\_100656274\_- | Man1a2 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr4\_23771757\_23772887\_- | not\_annotated | mm9\_circ\_015727 | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr4\_59493186\_59494610\_- | Ptbp3 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr8\_104516129\_104519823\_- | Nae1 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr4\_3569364\_3570372\_- | Tmem68 | NA | -6.44595 | 0.009187 | 0.099186 | 0.47811 | 0.059831 |
| chr11\_12343744\_12378359\_- | Cobl | mm9\_circ\_018049 | -3.55574 | 0.009358 | 0.099186 | 1.009344 | 0.239323 |
| chr6\_5100432\_5115480\_+ | Ppp1r9a | mm9\_circ\_017898 | -3.55574 | 0.009358 | 0.099186 | 1.009344 | 0.239323 |
| chr10\_13801404\_13801949\_- | Aig1 | NA | 2.409261 | 0.009688 | 0.099186 | 1.859319 | 3.829174 |
| chr6\_54194026\_54220702\_+ | Chn2 | NA | 2.711889 | 0.010216 | 0.099186 | 0.849974 | 1.974418 |
| chr11\_105758922\_105798824\_+ | Tanc2 | NA | -4.15699 | 0.010419 | 0.099186 | 0.743727 | 0.149577 |
| chr11\_6311009\_6317080\_+ | Ogdh | mm9\_circ\_008777 | -4.15699 | 0.010419 | 0.099186 | 0.743727 | 0.149577 |
| chr12\_40621221\_40640445\_+ | Dock4 | NA | -4.15699 | 0.010419 | 0.099186 | 0.743727 | 0.149577 |
| chr9\_107791005\_107796537\_- | Rbm6 | NA | -4.15699 | 0.010419 | 0.099186 | 0.743727 | 0.149577 |
| chr1\_155944099\_155962560\_- | Cep350 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr1\_159278089\_159289040\_+ | Rfwd2 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr1\_160682041\_160740931\_- | Rabgap1l | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr1\_161098263\_161099285\_- | Klhl20 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr1\_16366079\_16394210\_- | Stau2 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr1\_87416818\_87428728\_+ | Gigyf2 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr10\_20023608\_20046484\_+ | Map3k5 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr10\_40394325\_40436212\_+ | Cdk19 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr10\_52346049\_52357365\_- | Gopc | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr12\_55782782\_55795776\_- | Ralgapa1 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr12\_72783683\_72786789\_+ | Ppm1a | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr14\_78994400\_79026077\_+ | Vwa8 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr2\_105683828\_105691723\_+ | Pax6 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr2\_157053519\_157060412\_- | Soga1 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr3\_131599865\_131619289\_+ | Papss1 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr5\_29587279\_29607098\_+ | Ube3c | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr5\_89122402\_89149433\_+ | Slc4a4 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr6\_111066762\_111207883\_+ | Grm7 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr7\_67545366\_67560064\_- | Lrrc28 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr11\_85032069\_85042680\_- | Usp32 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr12\_69302324\_69303962\_+ | Klhdc2 | mm9\_circ\_005129 | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr14\_121651750\_121662593\_- | Dock9 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr14\_12705512\_12705844\_- | Cadps | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr15\_72512076\_72513044\_- | Kcnk9 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr16\_20150442\_20162137\_+ | Yeats2 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr16\_7292185\_7375969\_+ | Rbfox1 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr16\_89833010\_89843334\_- | Tiam1 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr16\_94659497\_94673483\_+ | Dyrk1a | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr19\_59207087\_59208435\_- | not\_annotated | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr2\_179921152\_179933052\_- | Taf4a | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr3\_86083227\_86085357\_+ | Sh3d19 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr4\_125623481\_125632525\_+ | Grik3 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr4\_42995896\_42996343\_- | Vcp | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr4\_56899026\_56937979\_- | Tmem245 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr4\_6417165\_6418523\_- | Nsmaf | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr6\_47576536\_47577667\_- | Ezh2 | mm9\_circ\_002148 | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
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| chr7\_98979636\_98992008\_- | Uvrag | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr8\_107338809\_107351599\_+ | Nfat5 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chr8\_83990428\_83990985\_+ | Prkaca | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |
| chrX\_162546755\_162565351\_- | Reps2 | NA | 51.89737 | 0.010514 | 0.099186 | 0 | 0.209408 |