Supplementary table 2. The gene knock-down efficiency of the most efficient siRNAs chosen for RNAi screening tests.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **number** | **siRNAs (product name)** | **Ct（primer：gene）** | **Ct（primer：18s）** | **∆Ct** | **-∆∆Ct** | **2-∆∆Ct** |
| 1 | negative control | 24.61  | 14.16  | 10.45  | 　 | 　 |
| 　 | Hs\_FLT4\_9 | 25.16  | 13.01  | 12.15  | -1.7 | 0.307786103 |
| 2 | negative control | 24.50  | 13.72  | 10.78  | 　 | 　 |
| 　 | Hs\_RAB11B\_4 | 26.97  | 14.54  | 12.43  | -1.65 | 0.318640157 |
| 3 | negative control | 25.83  | 13.84  | 11.99  | 　 | 　 |
| 　 | Hs\_PLCH1\_2 | 26.27  | 14.28  | 11.99  | 0 | 1.00000  |
| 4 | negative control | 23.13  | 13.65  | 9.48  | 　 | 　 |
| 　 | Hs\_CCDC93\_6 | 23.53  | 14.00  | 9.53  | -0.05 | 0.965936329 |
| 5 | negative control | 24.76  | 13.76  | 11.00  | 　 | 　 |
| 　 | Hs\_MID2\_9 | 26.80  | 15.00  | 11.80  | -0.8 | 0.574349177 |
| 6 | negative control | 30.66  | 14.25  | 16.41  | 　 | 　 |
| 　 | Hs\_TP53AIP1\_1 | 32.63  | 13.08  | 19.55  | -3.14 | 0.113439894 |
| 7 | negative control | 20.62  | 13.62  | 7.00  | 　 | 　 |
| 　 | Hs\_DDX1\_6 | 23.29  | 15.09  | 8.20  | -1.2 | 0.435275282 |
| 8 | negative control | 25.83  | 14.39  | 11.44  | 　 | 　 |
| 　 | Hs\_SYT9\_8 | 26.30  | 14.15  | 12.15  | -0.71 | 0.611320139 |
| 9 | negative control | 34.32  | 14.21  | 20.11  | 　 | 　 |
| 　 | Hs\_C1S\_2 | 36.33  | 13.18  | 23.15  | -3.04 | 0.121581868 |
| 10 | negative control | 19.18  | 14.45  | 4.73  | 　 | 　 |
| 　 | Hs\_UBE2V2\_8 | 21.08  | 14.27  | 6.81  | -2.08 | 0.236514412 |
| 11 | negative control | 50.09  | 14.14  | 35.95  | 　 | 　 |
| 　 | Hs\_PTPN22\_3 | 55.00  | 13.26  | 41.74  | -5.79 | 0.018073253 |
| 12 | negative control | 36.00  | 13.92  | 22.08  | 　 | 　 |
| 　 | Hs\_SLC6A14\_4 | 37.67  | 15.13  | 22.54  | -0.46 | 0.726986259 |
| 13 | negative control | 27.26  | 14.15  | 13.11  | 　 | 　 |
| 　 | Hs\_RIOK3\_5 | 26.99  | 12.14  | 14.85  | -1.74 | 0.299369676 |
| 14 | negative control | 19.68  | 13.51  | 6.17  | 　 | 　 |
| 　 | Hs\_RPL29\_10 | 21.74  | 15.61  | 6.13  | 0.04 | 1.028113827 |
| 15 | negative control | 40.36  | 14.16  | 26.20  | 　 | 　 |
| 　 | Hs\_PVR\_10 | 33.22  | 12.98  | 20.24  | -0.13 | 0.91383145 |
| 16 | negative control | 28.83  | 14.19  | 14.64  | 　 | 　 |
|   | Hs\_RAB18\_8 | 29.55  | 13.35  | 16.20  | -1.56 | 0.339151082 |
| 17 | negative control | 30.08  | 14.15  | 15.93  | 　 | 　 |
| 　 | Hs\_PTAFR\_1 | 30.95  | 13.71  | 17.24  | -1.31 | 0.40332088 |
| 18 | negative control | 28.87  | 13.67  | 15.20  | 　 | 　 |
| 　 | Hs\_PPP4R1\_8 | 30.94  | 12.55  | 18.39  | -3.19 | 0.109575715 |
| 19 | negative control | 24.98  | 14.17  | 10.81  | 　 | 　 |
| 　 | Hs\_MTMR15\_7 | 26.07  | 14.62  | 11.45  | -0.64 | 0.641712949 |
| 20 | negative control | 28.75  | 14.07  | 14.68  | 　 | 　 |
| 　 | Hs\_MAPK11\_3 | 30.20  | 12.96  | 17.24  | -2.56 | 0.169575541 |
| 21 | negative control | 24.43  | 14.27  | 10.16  | 　 | 　 |
| 　 | Hs\_AP4S1\_1 | 27.65  | 15.43  | 12.22  | -2.06 | 0.23981603 |
| 22 | negative control | 25.65  | 13.90  | 11.75  | 　 | 　 |
| 　 | Hs\_MEK2\_6 | 27.38  | 13.02  | 14.36  | -2.61 | 0.163799175 |
| 23 | negative control | 28.59  | 13.91  | 14.68  | 　 | 　 |
| 　 | Hs\_NFKBIE\_1 | 29.31  | 12.81  | 16.50  | -1.82 | 0.283220971 |
| 24 | negative control | 30.13  | 13.77  | 16.36  | 　 | 　 |
| 　 | Hs\_LTK\_7 | 31.92  | 13.62  | 18.30  | -1.94 | 0.26061644 |
| 25 | negative control | 38.35  | 13.83  | 24.52  | 　 | 　 |
| 　 | Hs\_NYD-SP25\_10 | 41.18  | 12.96  | 28.22  | -3.7 | 0.076946526 |
| 26 | negative control | 28.74  | 14.42  | 14.32  | 　 | 　 |
| 　 | Hs\_CNKSR1\_5 | 29.29  | 15.61  | 13.68  | 0.64 | 1.558329159 |
| 27 | negative control | 19.87  | 13.78  | 6.09  | 　 | 　 |
| 　 | Hs\_COPG\_1 | 21.36  | 13.19  | 8.17  | -2.08 | 0.236514412 |
| 28 | negative control | 26.96  | 14.27  | 12.69  | 　 | 　 |
| 　 | Hs\_MDS032\_3 | 28.13  | 14.21  | 13.92  | -1.23 | 0.426317446 |
| 29 | negative control | 21.18  | 14.19  | 6.99  | 　 | 　 |
| 　 | Hs\_RAB11A\_6 | 22.72  | 13.76  | 8.96  | -1.97 | 0.255253031 |
| 30 | negative control | 21.68  | 14.58  | 7.10  | 　 | 　 |
| 　 | Hs\_AP3S1\_9 | 24.16  | 14.35  | 9.81  | -2.71 | 0.152830035 |
| 31 | negative control | 21.86  | 14.11  | 7.75  | 　 | 　 |
| 　 | Hs\_ARL5\_4 | 24.71  | 13.90  | 10.81  | -3.06 | 0.119908015 |
| 32 | negative control | 21.66  | 15.66  | 6.00  | 　 | 　 |
| 　 | Hs\_VAMP2\_5 | 23.48  | 13.73  | 9.75  | -3.75 | 0.074325445 |
| 33 | negative control | 33.34  | 15.64  | 17.70  | 　 | 　 |
| 　 | Hs\_RAB23\_1 | 34.80  | 13.98  | 20.82  | -3.12 | 0.115023456 |
| 34 | negative control | 24.43  | 14.23  | 10.20  | 　 | 　 |
| 　 | Hs\_GOSR1\_2 | 25.96  | 14.98  | 10.98  | -0.78 | 0.582366793 |
| 35 | negative control | 30.54  | 15.68  | 14.86  | 　 | 　 |
| 　 | Hs\_STX1B2\_1 | 34.15  | 14.14  | 20.01  | -5.15 | 0.028164077 |
| 36 | negative control | 20.16  | 14.52  | 5.64  | 　 | 　 |
| 　 | Hs\_AP2S1\_4 | 22.29  | 14.67  | 7.62  | -1.98 | 0.25348987 |
| 37 | negative control | 26.46  | 14.57  | 11.89  | 　 | 　 |
| 　 | Hs\_AP3B2\_8 | 27.97  | 16.34  | 11.63  | 0.26 | 1.197478705 |
| 38 | negative control | 30.25  | 13.34  | 16.91  | 　 | 　 |
| 　 | Hs\_COPA\_9 | 32.77  | 14.45  | 18.32  | -1.41 | 0.376311687 |
| 39 | negative control | 20.77  | 15.77  | 5.00  | 　 | 　 |
| 　 | Hs\_AP1S2\_7 | 21.79  | 14.16  | 7.63  | -2.63 | 0.161544104 |
| 40 | negative control | 25.17  | 15.70  | 9.47  | 　 | 　 |
| 　 | Hs\_STX17\_3 | 27.71  | 14.44  | 13.27  | -3.8 | 0.071793647 |
| 41 | negative control | 25.47  | 14.32  | 11.15  | 　 | 　 |
| 　 | Hs\_ARL4D\_2 | 26.21  | 14.23  | 11.98  | -0.83 | 0.562529242 |
| 42 | negative control | 30.03  | 24.65  | 5.38  | 　 | 　 |
| 　 | Hs\_MGC21382\_1 | 31.03  | 27.03  | 4.00  | 1.38 | 2.602683711 |
| 43 | negative control | 22.74  | 14.29  | 8.45  | 　 | 　 |
| 　 | Hs\_RAB12\_5 | 24.73  | 14.81  | 9.92  | -1.47 | 0.360982299 |
| 44 | negative control | 21.52  | 14.40  | 7.12  | 　 | 　 |
| 　 | Hs\_RAB10\_5 | 22.50  | 15.07  | 7.43  | -0.31 | 0.806641759 |
| 45 | negative control | 24.83  | 15.95  | 8.88  | 　 | 　 |
| 　 | Hs\_NAPG\_7 | 26.45  | 15.24  | 11.21  | -2.33 | 0.198884121 |
| 46 | negative control | 27.86  | 15.81  | 12.05  | 　 | 　 |
| 　 | Hs\_HSPA8\_10 | 28.85  | 14.89  | 13.96  | -1.91 | 0.266092546 |
| 47 | negative control | 21.60  | 13.27  | 8.33  | 　 | 　 |
| 　 | Hs\_HSP90AB1\_5 | 22.80  | 14.18  | 8.62  | -0.29 | 0.817902059 |
| 48 | negative control | 25.12  | 13.70  | 11.42  | 　 | 　 |
| 　 | Hs\_ANXA2\_10 | 25.73  | 14.22  | 11.51  | -0.09 | 0.939522749 |
| 49 | negative control | 30.59  | 13.80  | 16.79  | 　 | 　 |
| 　 | Hs\_HSP90AA1\_2 | 30.41  | 14.21  | 16.20  | 0.59 | 1.505246747 |
| 50 | negative control | 20.53  | 14.15  | 6.38  | 　 | 　 |
| 　 | Hs\_ARFGAP1\_8 | 20.70  | 14.73  | 5.97  | 0.41 | 1.328685814 |
| 51 | negative control | 19.45  | 13.71  | 5.74  | 　 | 　 |
| 　 | Hs\_VIM\_11 | 36.67  | 14.39  | 22.28  | -16.54 | 0.000010495 |
| 52 | negative control | 31.22  | 13.79  | 17.43  | 　 | 　 |
| 　 | Hs\_NTRK1\_1 | 31.39  | 14.69  | 16.70  | 0.73 | 1.658639092 |
| 53 | negative control | 16.29  | 14.16  | 2.13  | 　 | 　 |
| 　 | Hs\_ACTG1\_2 | 17.55  | 13.95  | 3.60  | -1.47 | 0.360982299 |
| 54 | negative control | 36.40  | 13.67  | 22.73  | 　 | 　 |
| 　 | Hs\_HSPA1A\_9 | 37.42  | 14.78  | 22.64  | 0.09 | 1.064370182 |
| 55 | negative control | 21.42  | 13.83  | 7.59  | 　 | 　 |
| 　 | Hs\_ANXA5\_6 | 23.33  | 14.96  | 8.37  | -0.78 | 0.582366793 |
| 56 | negative control | 16.51  | 13.81  | 2.70  | 　 | 　 |
| 　 | Hs\_ACTB\_9 | 18.08  | 15.02  | 3.06  | -0.36 | 0.77916458 |
| 57 | negative control | 25.34  | 13.88  | 11.46  | 　 | 　 |
| 　 | Hs\_GGT1\_10 | 26.34  | 15.04  | 11.30  | 0.16 | 1.117287138 |
| 58 | negative control | 19.43  | 13.79  | 5.64  | 　 | 　 |
| 　 | Hs\_ATP5A1\_5 | 21.04  | 14.95  | 6.09  | -0.45 | 0.732042848 |
| 59 | negative control | 18.92  | 13.65  | 5.27  | 　 | 　 |
| 　 | Hs\_YWHAZ\_3 | 21.15  | 13.50  | 7.65  | -2.38 | 0.192109398 |
| 60 | negative control | 35.79  | 13.79  | 22.00  | 　 | 　 |
| 　 | Hs\_ANXA4\_6 | 35.72  | 13.62  | 22.10  | -0.1 | 0.933032992 |
| 61 | negative control | 29.00  | 13.74  | 15.26  | 　 | 　 |
| 　 | Hs\_HSPA5\_7 | 20.59  | 13.74  | 6.85  | -1.58 | 0.334481889 |
| 62 | negative control | 19.29  | 13.84  | 5.45  | 　 | 　 |
| 　 | Hs\_YWHAQ\_6 | 22.04  | 13.98  | 8.06  | -2.61 | 0.163799175 |
| 63 | negative control | 22.28  | 13.78  | 8.50  | 　 | 　 |
| 　 | Hs\_ACTN1\_10 | 28.87  | 16.30  | 12.57  | -4.07 | 0.059539875 |
| 64 | negative control | 19.90  | 14.42  | 5.48  | 　 | 　 |
| 　 | Hs\_COPB2\_6 | 21.10  | 16.36  | 4.74  | 0.74 | 1.670175839 |
| 65 | negative control | 21.44  | 14.33  | 7.11  | 　 | 　 |
| 　 | Hs\_RAB5C\_5 | 23.10  | 14.62  | 8.48  | -1.37 | 0.386891248 |

18s, 18sRNA, was treated as control.