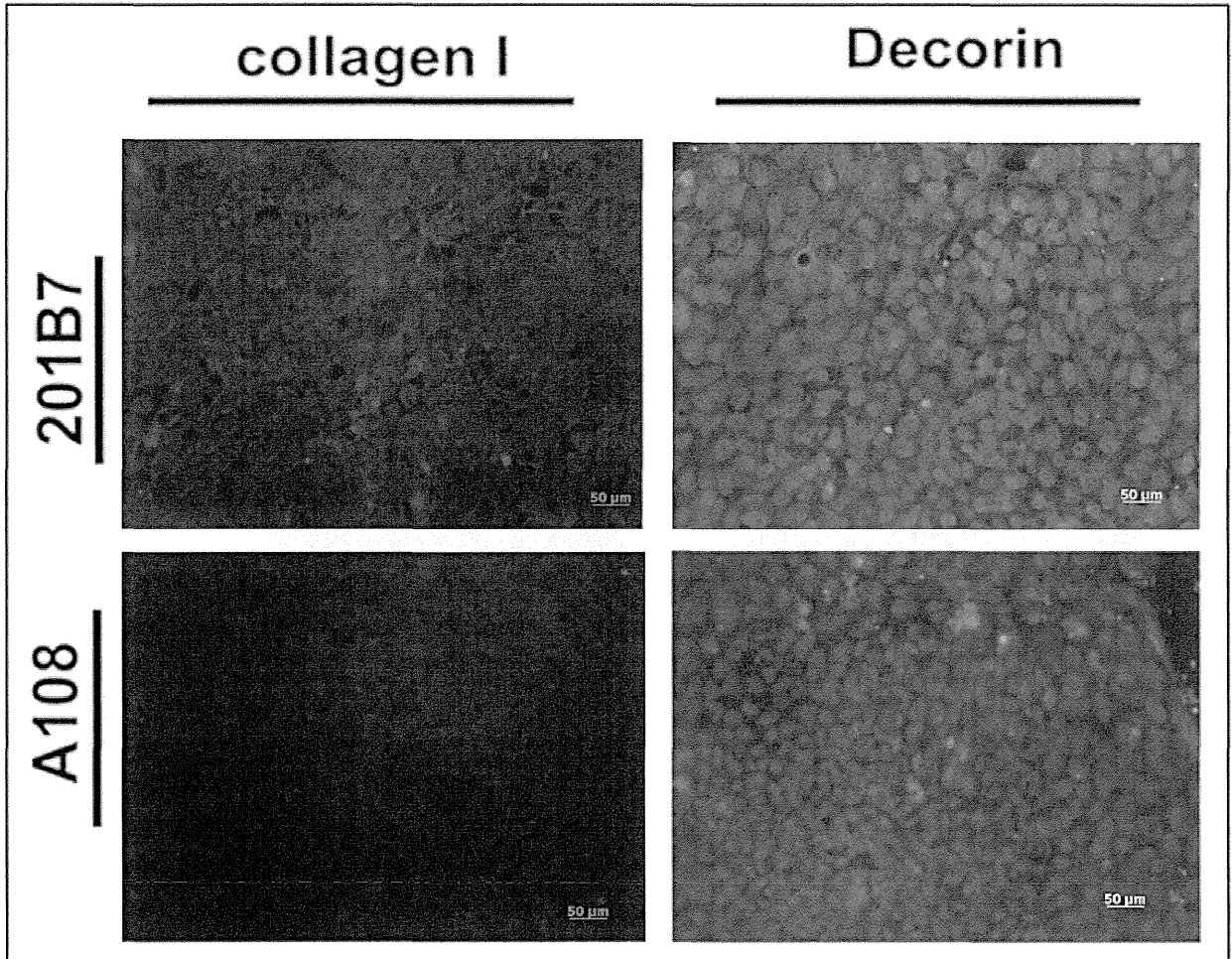
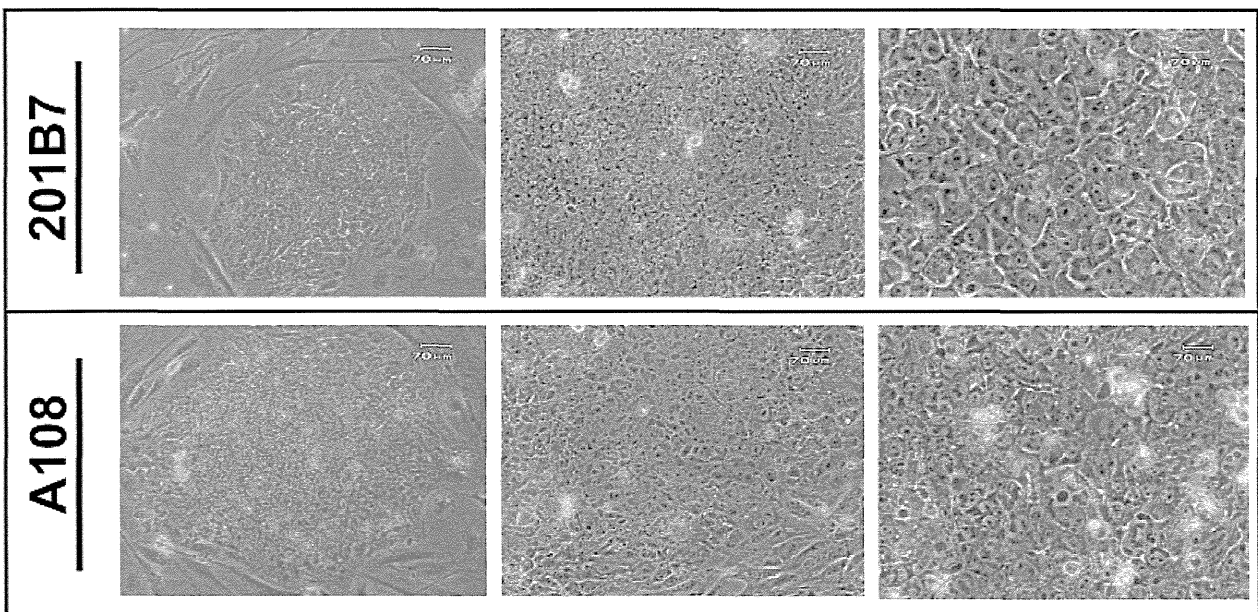


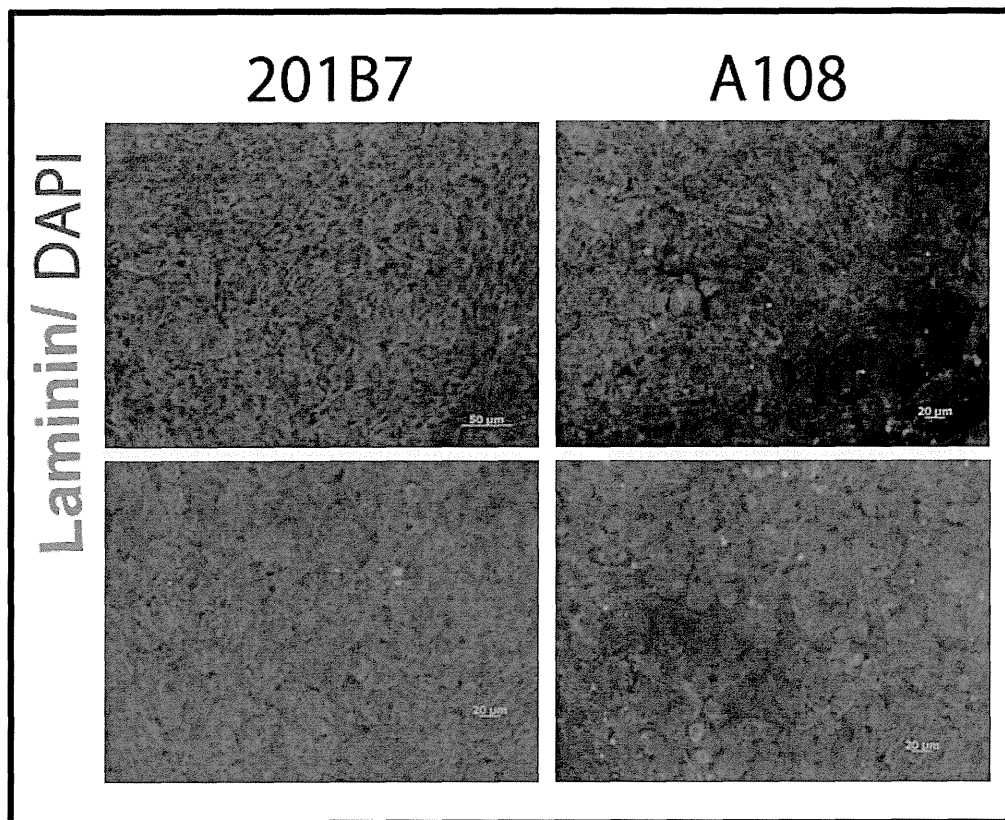
☒ 16



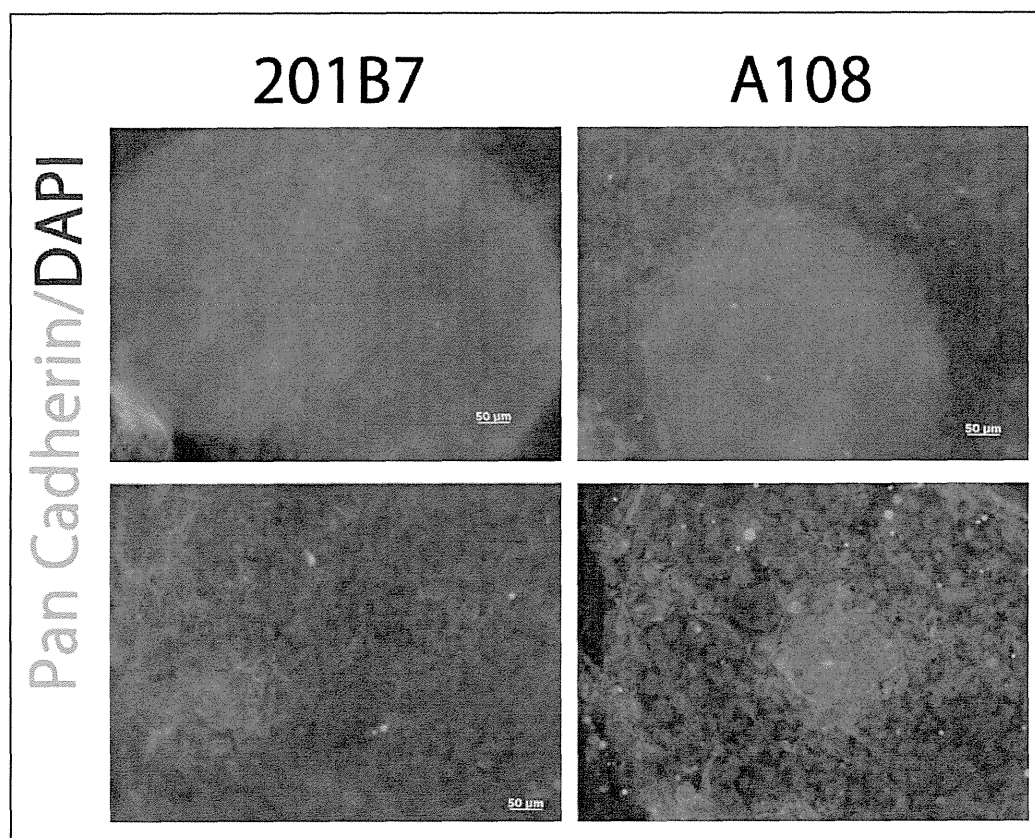
☒ 17



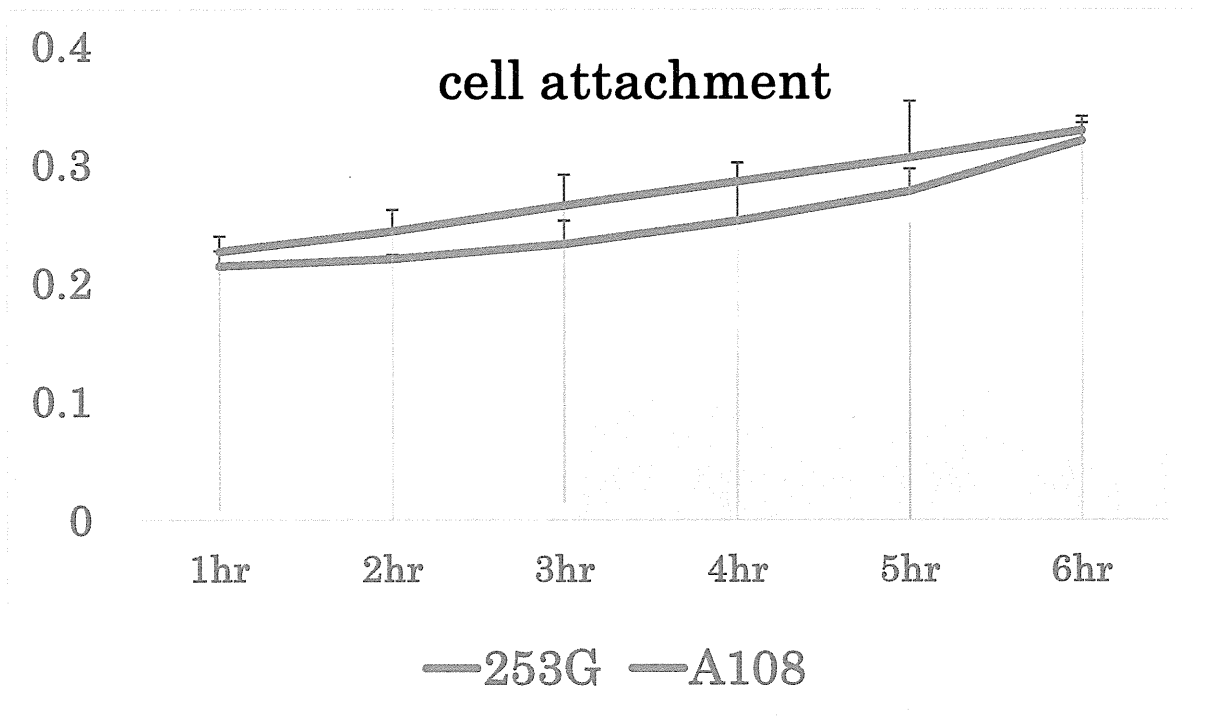
☒ 18



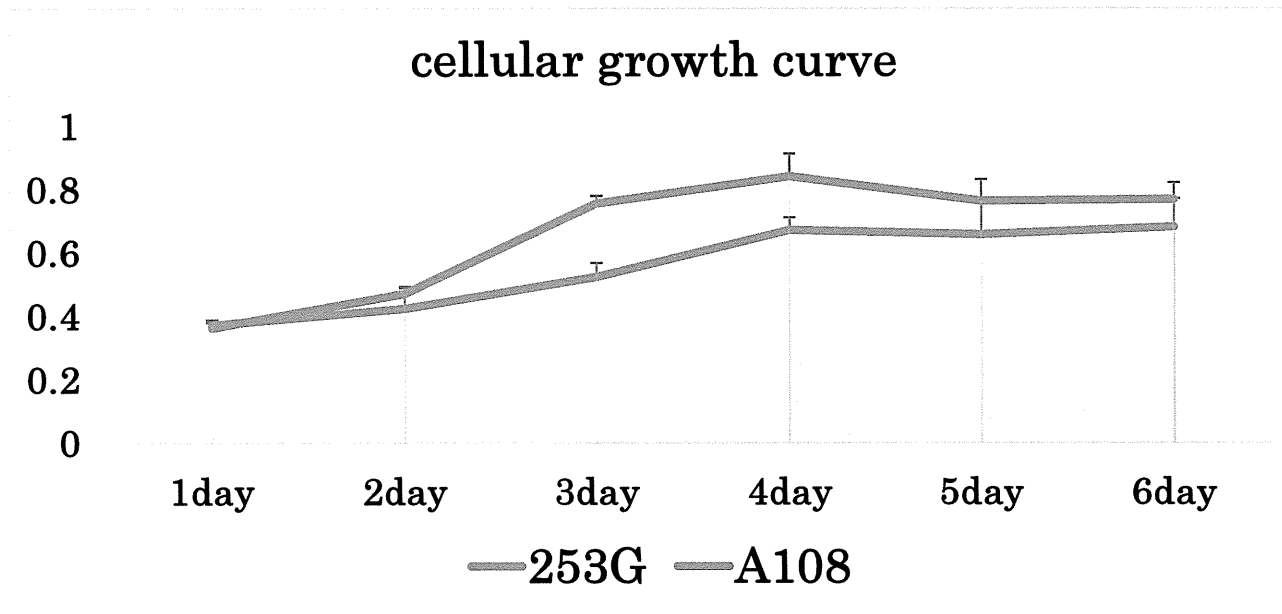
☒ 19

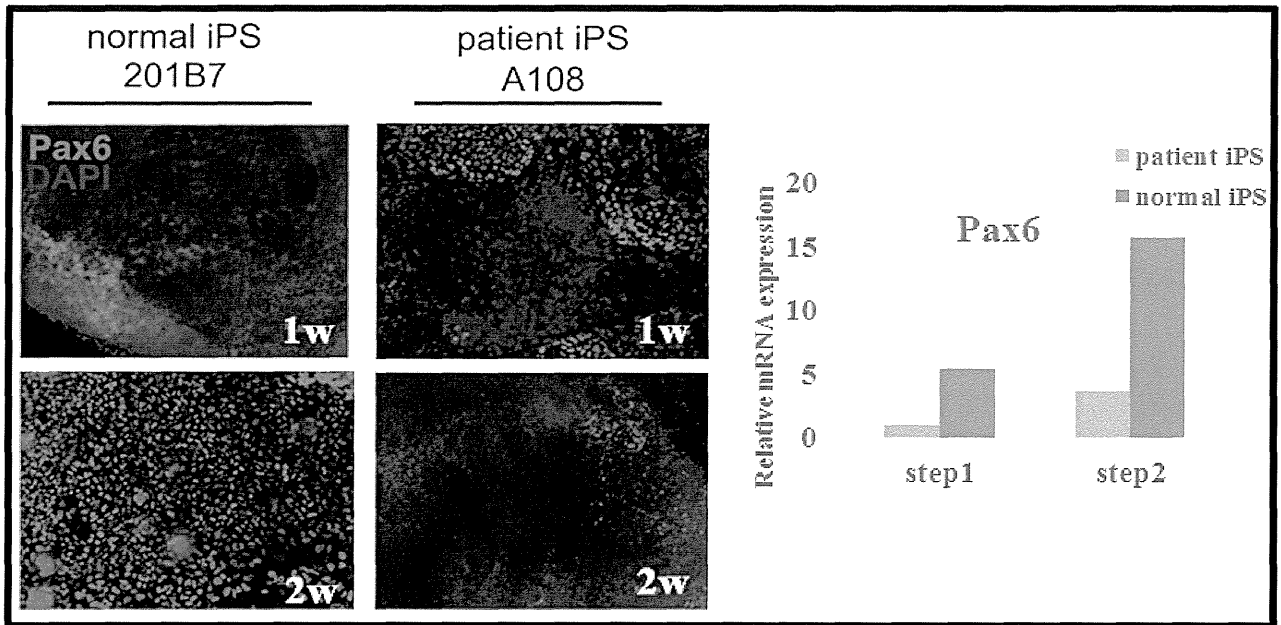
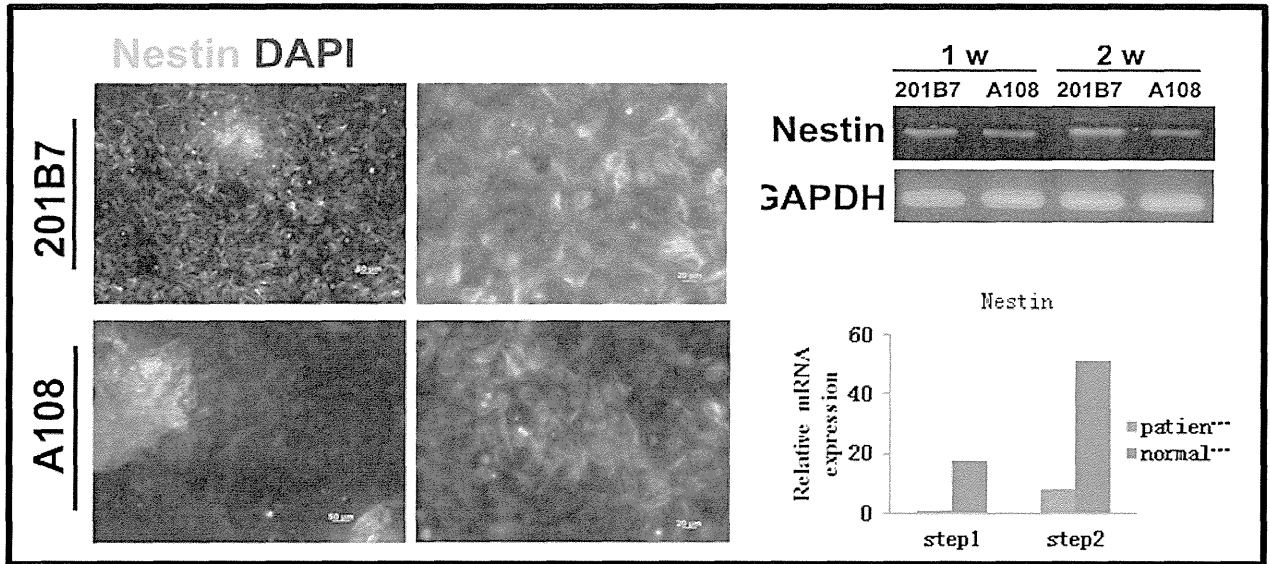


☒ 20

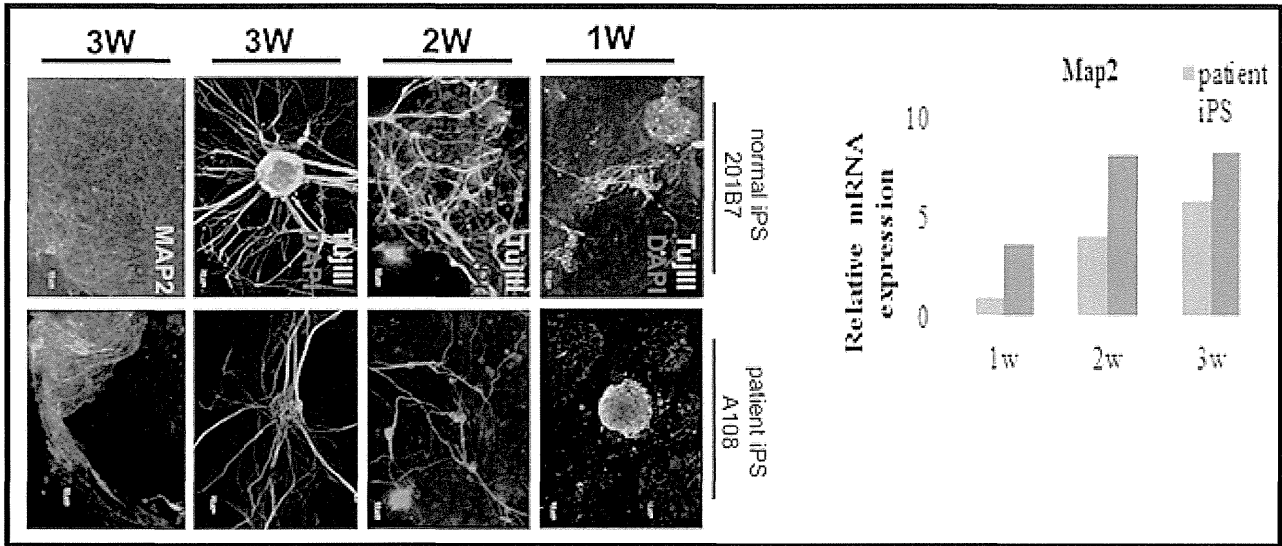


☒ 21



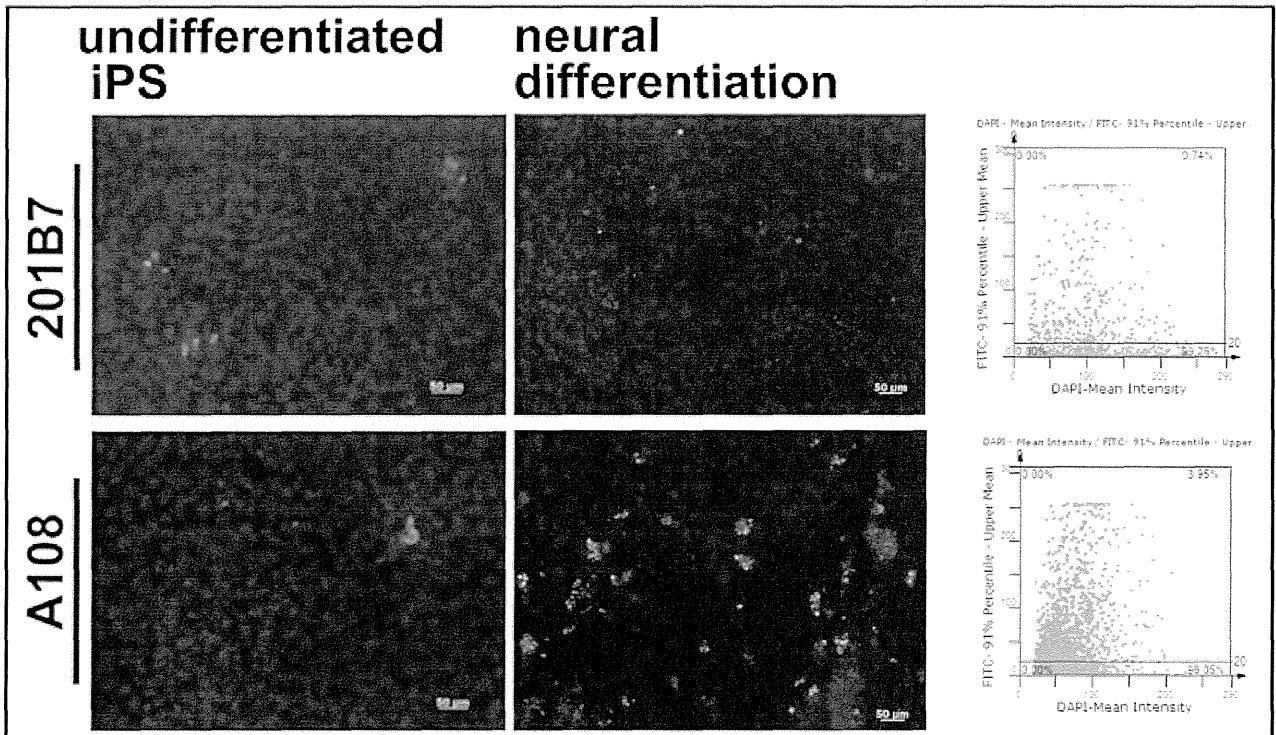
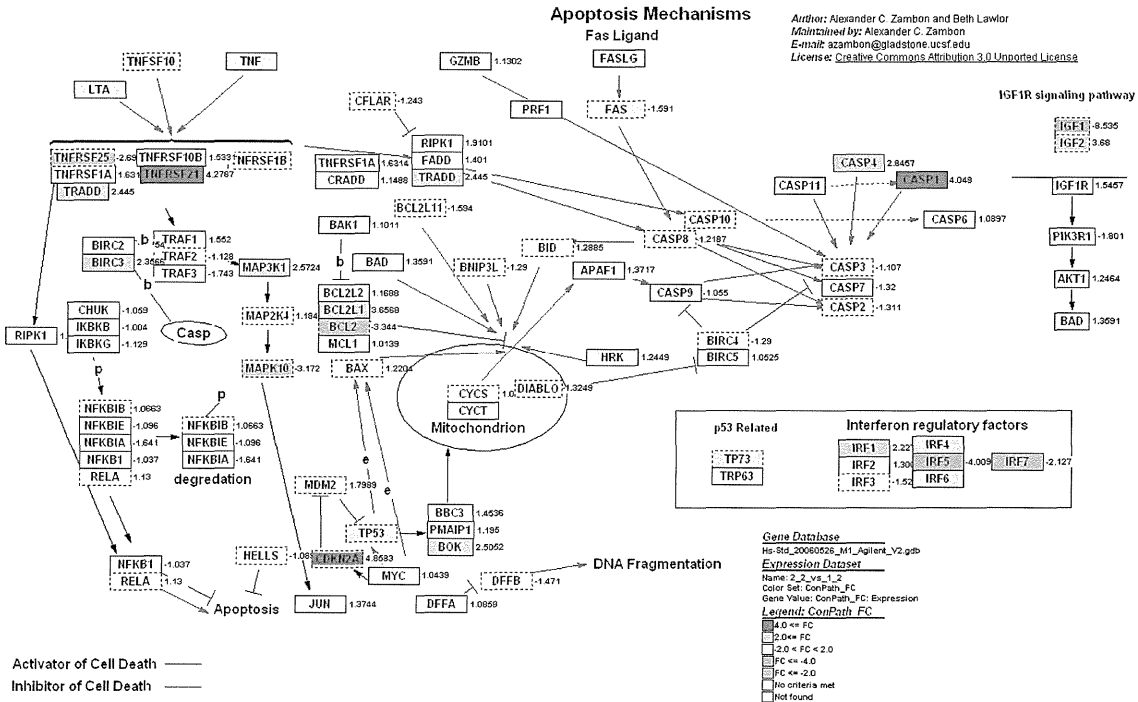


Protein expression of Nestin and Pax6 (neural progenitor marker) confirmed the neural formation in iPS colony. RT-PCR and Real-time PCR analysis of neural precursors at 1- and 2-week. Gene expression of Nestin and Pax6 in 201B7 is higher than that in A108.



Neuron-derived from iPS were confirmed using with TujIII and Map2 antibody . Neural differentiation efficiency in A108 is lower than that in 201B7. Real-time PCR analysis of neural differentiation in A108 and 201B7 using with Map2 gene.

| neuron development (GO:0048666) | | | regulation of neuron differentiation (GO:0045664) | | | dendrite morphogenesis (GO:0048813) | | |
|---------------------------------|------|----------------|--|------|----------------|---|--------------|----------------|
| Gene | Symt | Regulation | Gene | Symt | Regulation | Gene | Symt | Regulation |
| | | [201B7] [A108] | | | [201B7] [A108] | | | [201B7] [A108] |
| NCAM2 | down | 0.371 -1.891 | NEFM | down | 2.056 -0.286 | TLX2 | down | 1.916 -1.552 |
| DPYSL5 | down | 1.744 -2.272 | NLGN1 | down | 1.451 -1.671 | CACNA1A | down | 0.292 -2.256 |
| NEFL | down | 1.933 -3.675 | CDH4 | down | 1.329 -3.487 | DCLK1 | down | 1.571 -4.181 |
| NTF3 | down | 1.586 -2.327 | NTRK3 | down | 2.009 -0.121 | CELSR2 | down | 0.966 -1.432 |
| CDH4 | down | 1.329 -3.487 | SEMA3F | down | 1.660 -1.775 | DCX | down | 4.613 -2.907 |
| TLX2 | down | 1.916 -1.552 | HOXA2 | down | 3.891 -0.906 | | | |
| TH | down | 0.936 -1.874 | NGFR | down | 3.289 -0.559 | regulation of neurotransmitter secretion (GO:00466) | | |
| DCLK1 | down | 1.571 -4.181 | ROBO2 | down | 1.158 -1.406 | Gene | Symt | Regulation |
| NFASC | down | 1.529 -0.525 | NTN1 | down | 0.514 -1.782 | | | [201B7] [A108] |
| NTNG1 | down | 4.750 -0.541 | DLL1 | down | 2.817 -1.111 | SNCA | down | 2.131 -0.031 |
| IRX5 | down | 3.114 -3.390 | ISL1 | down | 2.166 0.081 | EDN3 | down | 4.693 0.642 |
| SEMA3F | down | 1.660 -1.775 | | | CACNA1A | down | 0.292 -2.256 | |
| ONECUT2 | down | 4.131 -0.645 | neuron cell-cell adhesion (GO:0007158) | | | SNCG | down | 1.404 -1.499 |
| HOXA2 | down | 3.891 -0.906 | Gene | Symt | Regulation | EDN3 | down | 1.807 -0.950 |
| NGFR | down | 3.289 -0.559 | | | [201B7] [A108] | GRM8 | down | 3.494 -0.750 |
| NFASC | down | -0.521 -2.969 | NCAM2 | down | 0.371 -1.891 | neuron migration (GO:0001764) | | |
| ROBO2 | down | 1.158 -1.406 | CTNND2 | down | 2.330 -0.616 | Gene | Symt | Regulation |
| PTPRZ1 | down | -0.584 -4.084 | ASTN1 | down | 3.480 0.014 | | | [201B7] [A108] |
| RORB | down | 1.095 -1.007 | CDK5R1 | down | 1.091 -2.332 | NR2F1 | down | 5.414 2.486 |
| BMP7 | down | 2.344 -2.335 | | | | DCLK1 | down | 1.571 -4.181 |
| CDK5R1 | down | 1.091 -2.332 | positive regulation of axon extension (GO:0045773) | | | TWIST1 | down | 4.084 0.971 |
| ISL1 | down | 2.166 0.081 | Gene | Symt | Regulation | MDGA1 | down | 1.153 -1.444 |
| BMP7 | down | -0.705 -2.908 | | | [201B7] [A108] | DCX | down | 4.613 -2.907 |
| | | | CDH4 | down | 1.329 -3.487 | DCDC2 | down | 0.249 -2.092 |
| | | | NTRK3 | down | 2.009 -0.121 | NTN1 | down | 0.514 -1.782 |
| | | | MAPT | down | 5.620 1.641 | TWIST1 | down | 2.431 -1.483 |
| | | | NTN1 | down | 0.514 -1.782 | CDK5R1 | down | 1.091 -2.332 |



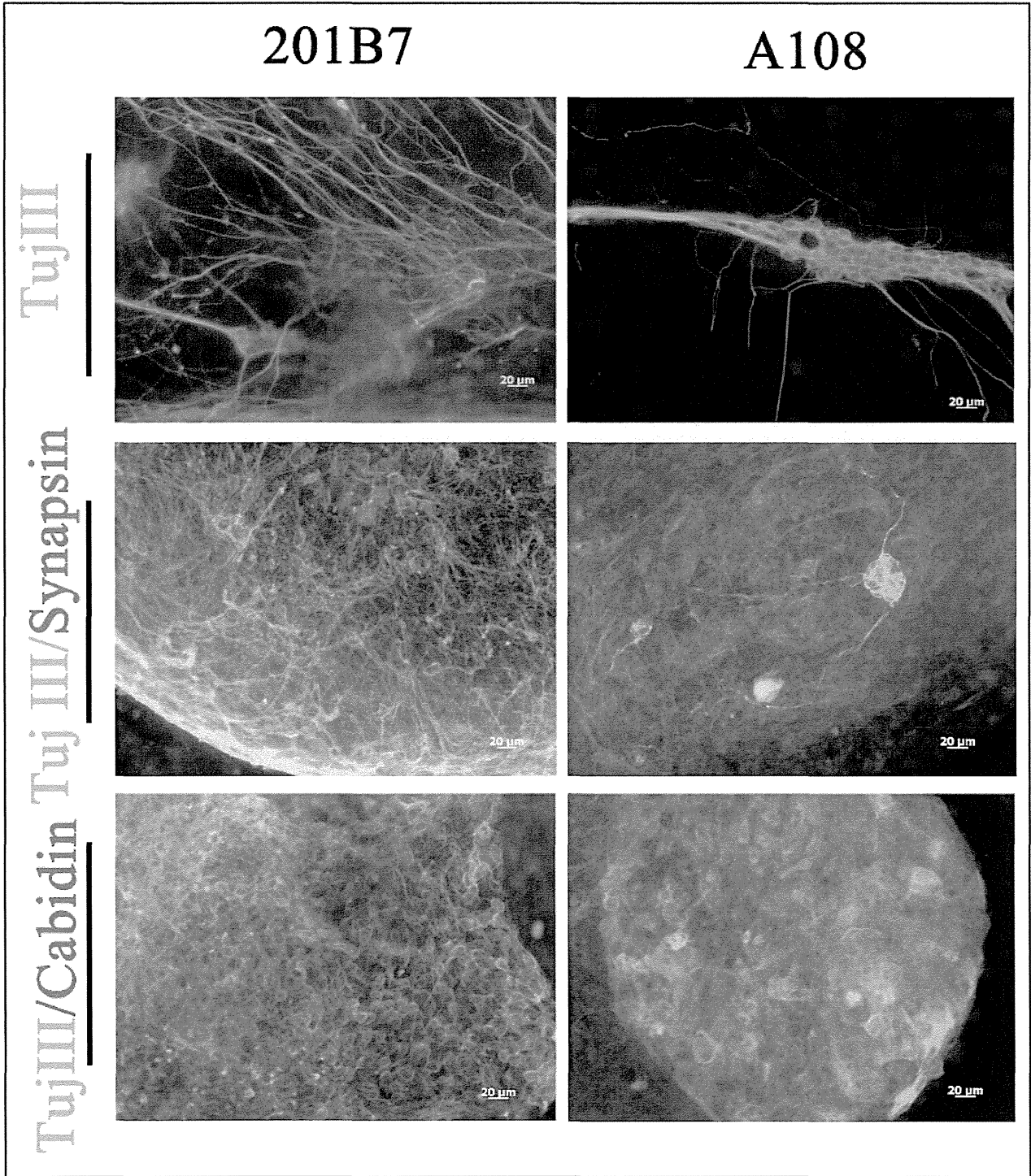


图 27

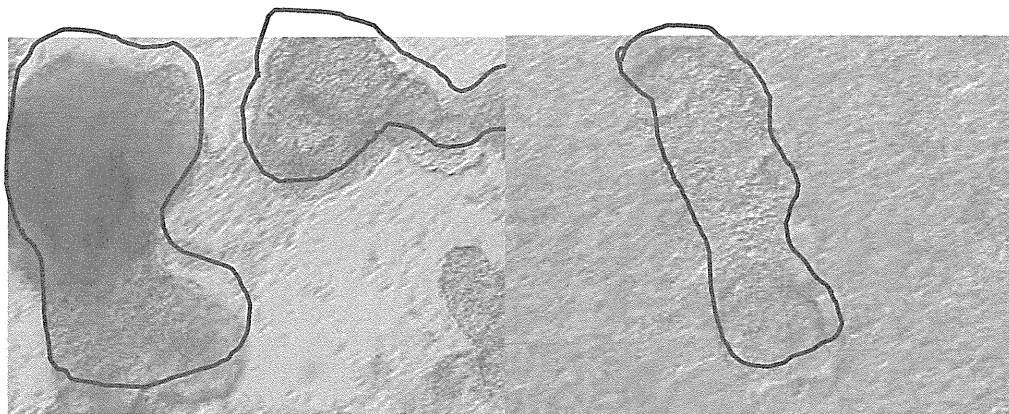


图 28

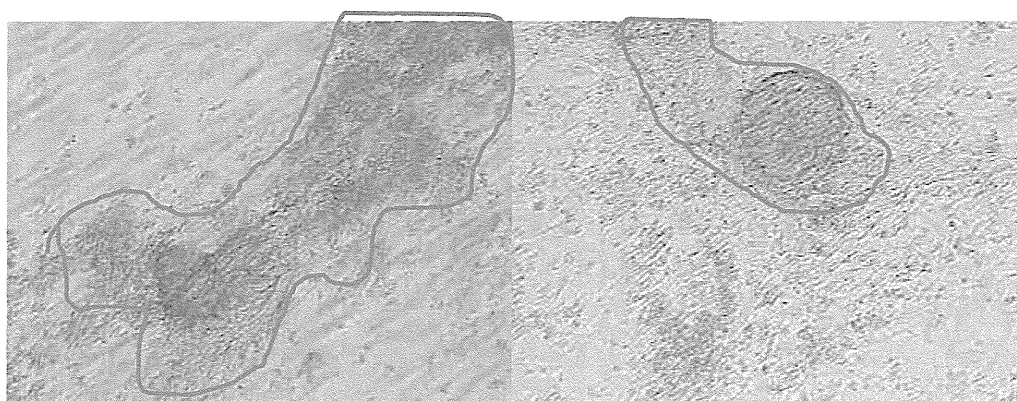
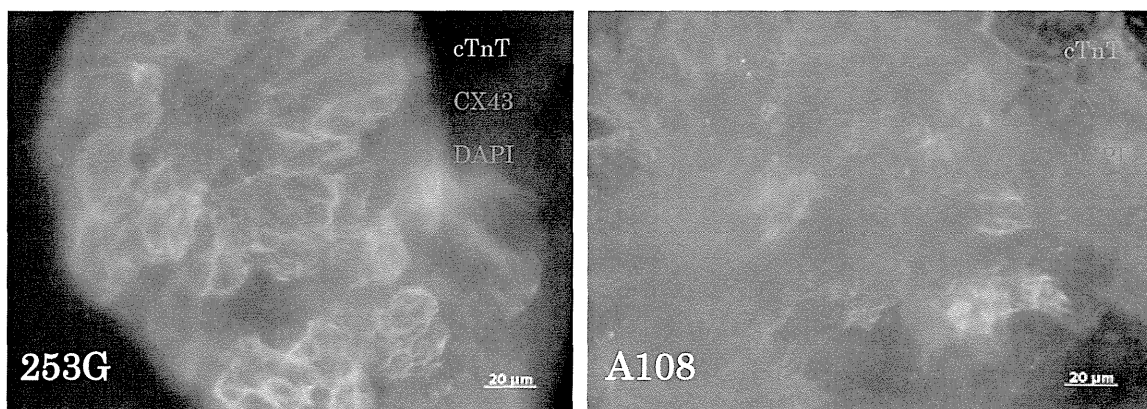
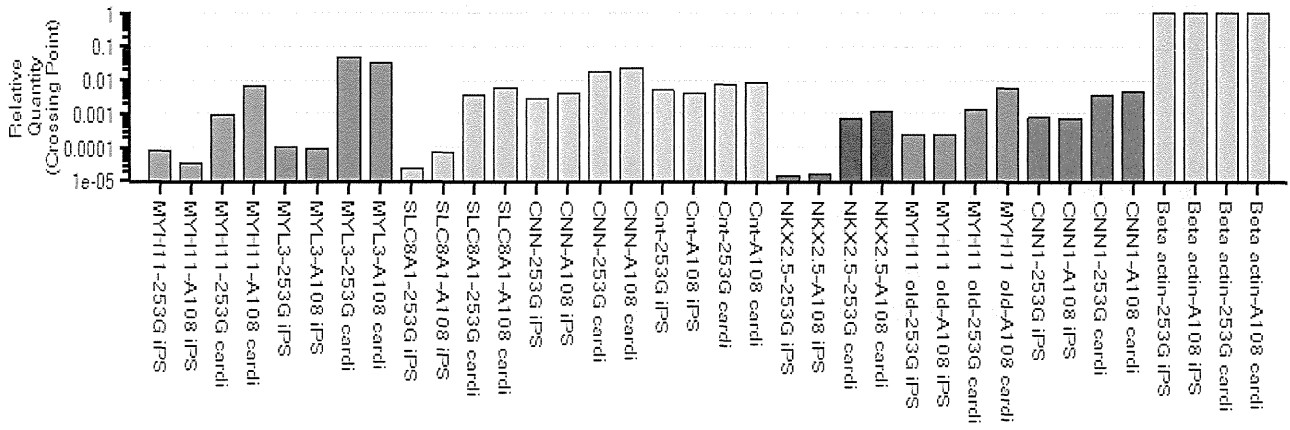


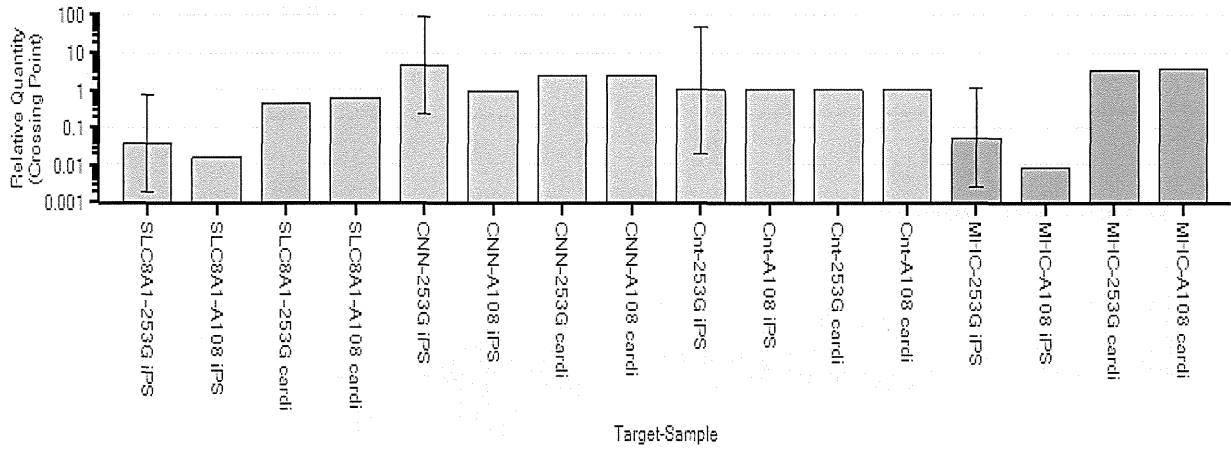
图 29



☒ 30



☒ 31



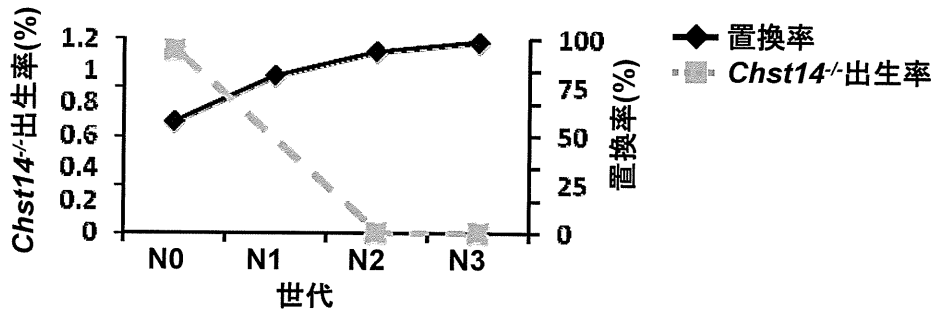


図32. C57BL/6Jへの置換率と出生率

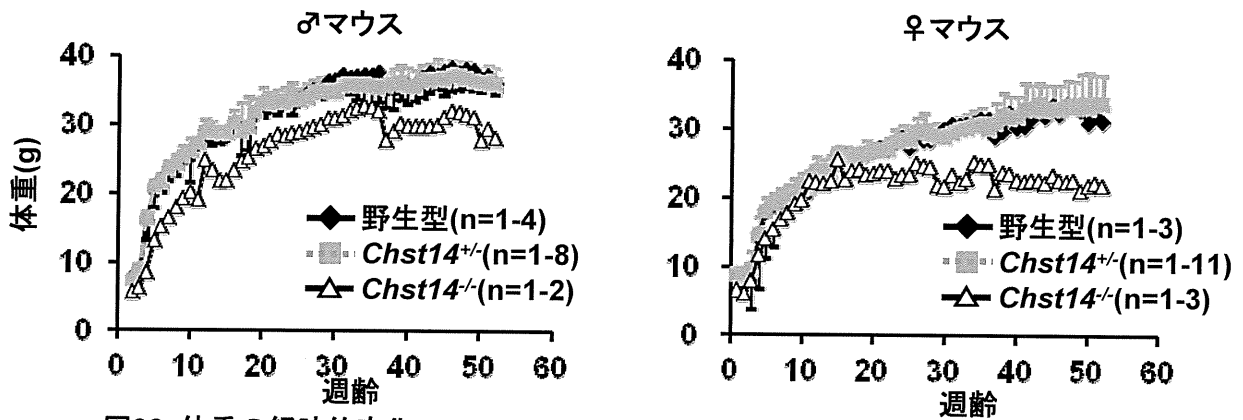
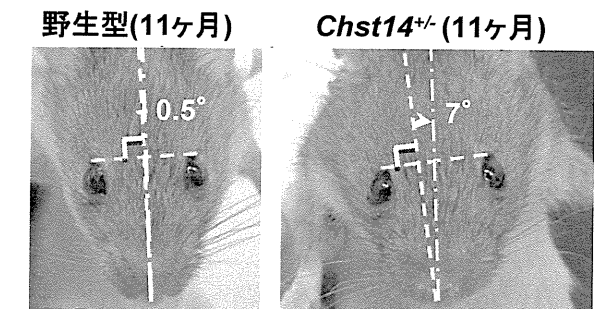


図33. 体重の経時的変化



--- 眼間線及び鼻先から眼間線に下した垂線
 --- 鼻先から眼間の中心点を通る線

図34. 顔貌の左右非対称

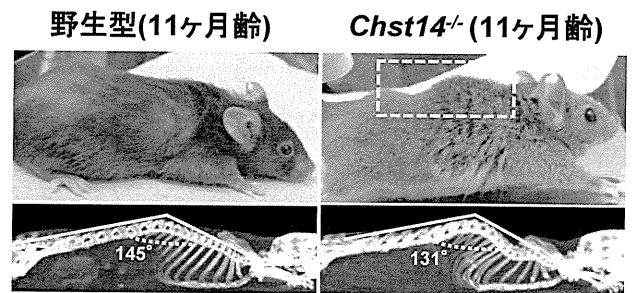


図35. 強い後彎

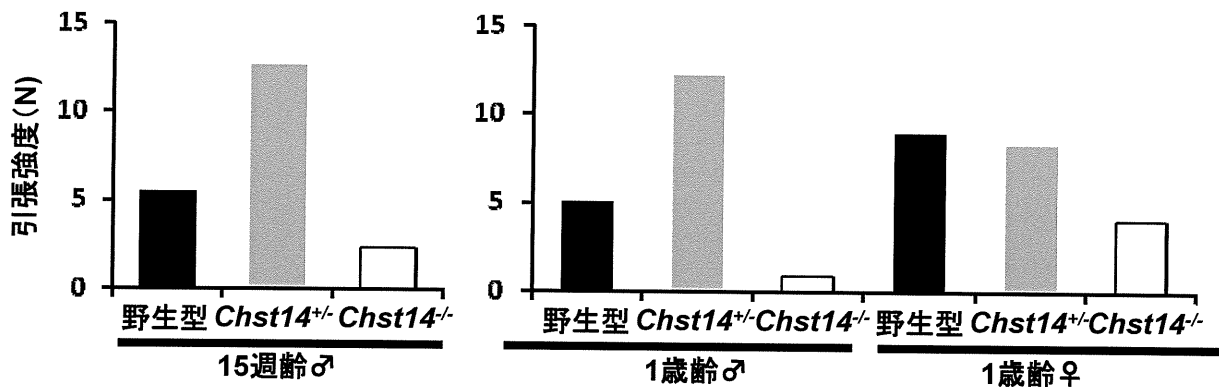


図36. 皮膚引張強度の低下