A woman with short, light-colored hair, wearing a white lab coat and a small hoop earring, is shown in profile, looking down at a pipette she is holding. The background is a blurred laboratory setting with various pieces of equipment and windows. The overall image has a light blue/teal tint.

Reprogramming of 24 patient fibroblast samples: QC analysis 3/3 (Part2)

19-03-2024

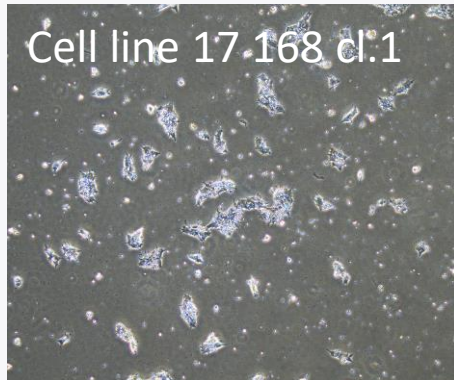
Berta Sanz Morello, PhD
Bioneer A/S

bioneer

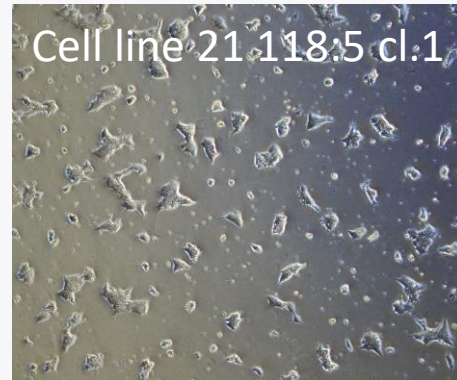
Morphology

Morphology of iPSCs 24 hours after thawing*:

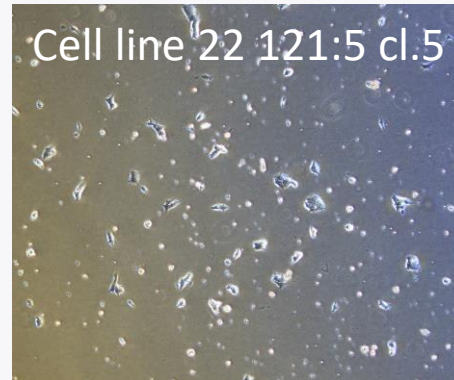
hPSCreg ID
SUHi018-A



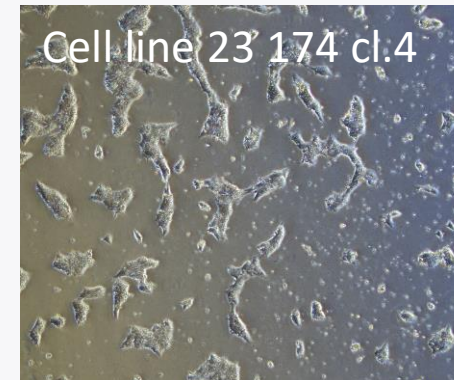
hPSCreg ID
SUHi022-A



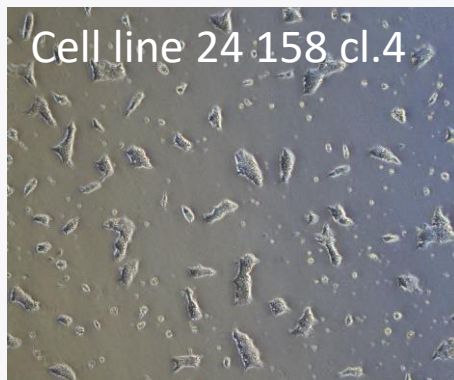
hPSCreg ID
SUHi023-A



hPSCreg ID
SUHi024-A



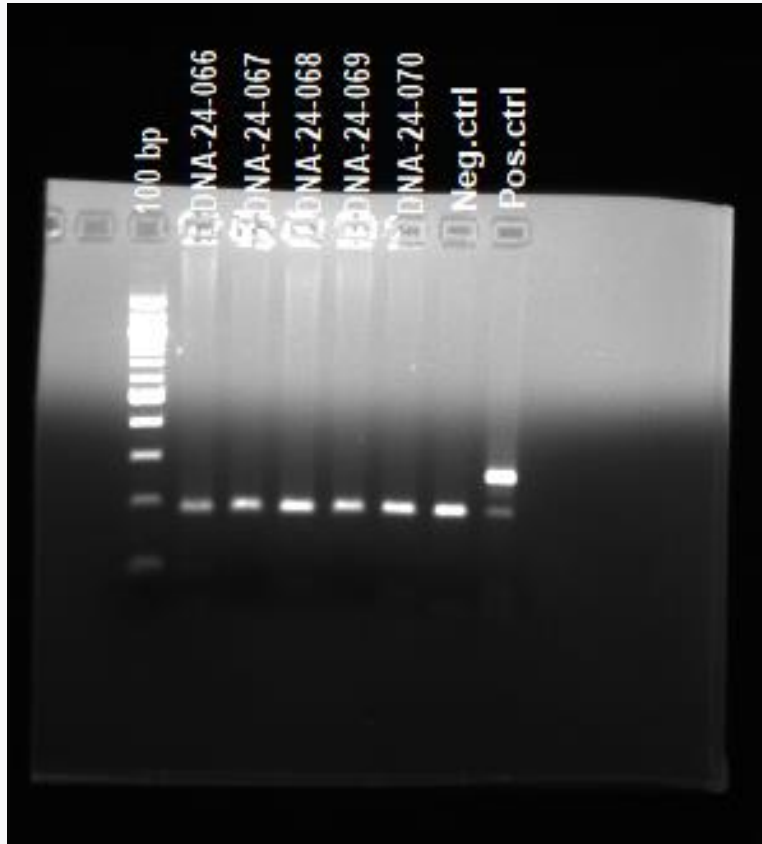
hPSCreg ID
SUHi017-A



QC Overview

hPSCreg ID	Line ID	Clone	Mycoplasma	Sterility	Trilineage diff.
SUHi018-A	Cell line 17 168	1	Passed	Passed	Passed
SUHi022-A	Cell line 21 118:5	1	Passed	Passed	Passed
SUHi023-A	Cell line 22 121:5	5	Passed	Passed	Passed
SUHi024-A	Cell line 23 174	4	Passed	Passed	Passed
SUHi017-A	Cell line 24 158	4	Passed	Passed	Passed

Mycoplasma test



	hPSCreg ID	Line ID	Clone
DNA-24-066	SUHi018-A	Cell line 17 168	1
DNA-24-067	SUHi022-A	Cell line 21 118:5	1
DNA-24-068	SUHi023-A	Cell line 22 121:5	5
DNA-24-069	SUHi024-A	Cell line 23 174	4
DNA-24-070	SUHi017-A	Cell line 24 158	4

Sterility test

No contamination was detected in any of the lines 48 hours after thawing (data not shown).

Trilineage differentiation

hPSCreg ID	SAMPLES	Fold over reference sample			
		GATA4 (Endo and Meso marker)	CXCR4 (Meso and Endo marker)	Pax 6 (Ecto marker)	GAPDH
SUHi018-A	Cell line 17 168 cl 1 iPSC	1,00	1,00	1,00	1,00
SUHi022-A	Cell line 21 118:5 cl 1 iPSC	1,00	1,00	1,00	1,00
SUHi023-A	Cell line 22 121:5 cl 5 iPSC	1,00	1,00	1,00	1,00
SUHi024-A	Cell line 23 174 cl 4 iPSC	1,00	1,00	1,00	1,00
SUHi017-A	Cell line 24 158 cl 4 iPSC	1,00	1,00	1,00	1,00
SUHi018-A	Cell line 17 168 cl 1 Endo	2984,62	519,15	172,84	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Endo	1165,45	47,29	22,01	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Endo	3956,48	51,63	72,17	1,00
SUHi024-A	Cell line 23 174 cl 4 Endo	17722,98	44,63	4,86	1,00
SUHi017-A	Cell line 24 158 cl 4 Endo	175,26	66,72	2,35	1,00
SUHi018-A	Cell line 17 168 cl 1 Meso	258,38	977,76	0,08	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Meso	79,34	221,83	0,13	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Meso	178,94	117,24	0,28	1,00
SUHi024-A	Cell line 23 174 cl 4 Meso	326,29	77,71	0,03	1,00
SUHi017-A	Cell line 24 158 cl 4 Meso	198,55	550,02	0,07	1,00
SUHi018-A	Cell line 17 168 cl 1 Ecto	0,09	19,25	2184,87	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Ecto	0,09	16,49	3075,63	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Ecto	0,25	8,88	837,53	1,00
SUHi024-A	Cell line 23 174 cl 4 Ecto	0,86	11,71	501,46	1,00
SUHi017-A	Cell line 24 158 cl 4 Ecto	0,03	19,25	2759,13	1,00

Fold over reference sample is based on the formula:

$$2^{- (\Delta Ct \text{ target tissue} - \Delta Ct \text{ reference tissue})}$$

Where:


ΔCt = Ct gene of interest – Ct house keeping gene

Target tissue = endo, ecto or mesoderm
 Reference tissue = undifferentiated iPSCs
 Gene of interest = GATA4, CXCR4, or Pax6
 Housekeeping gene = GAPDH

Trilineage differentiation

All iPSC lines tested were able to differentiate to the 3 germ layers.

hPSCreg ID	SAMPLES	Fold over reference sample			
		GATA4 (Endo and Meso marker)	CXCR4 (Meso and Endo marker)	Pax 6 (Ecto marker)	GAPDH
SUHi018-A	Cell line 17 168 cl 1 iPSC	1,00	1,00	1,00	1,00
SUHi022-A	Cell line 21 118:5 cl 1 iPSC	1,00	1,00	1,00	1,00
SUHi023-A	Cell line 22 121:5 cl 5 iPSC	1,00	1,00	1,00	1,00
SUHi024-A	Cell line 23 174 cl 4 iPSC	1,00	1,00	1,00	1,00
SUHi017-A	Cell line 24 158 cl 4 iPSC	1,00	1,00	1,00	1,00
SUHi018-A	Cell line 17 168 cl 1 Endo	2984,62	519,15	172,84	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Endo	1165,45	47,29	22,01	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Endo	3956,48	51,63	72,17	1,00
SUHi024-A	Cell line 23 174 cl 4 Endo	17722,98	44,63	4,86	1,00
SUHi017-A	Cell line 24 158 cl 4 Endo	175,26	66,72	2,35	1,00
SUHi018-A	Cell line 17 168 cl 1 Meso	258,38	977,76	0,08	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Meso	79,34	221,83	0,13	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Meso	178,94	117,24	0,28	1,00
SUHi024-A	Cell line 23 174 cl 4 Meso	326,29	77,71	0,03	1,00
SUHi017-A	Cell line 24 158 cl 4 Meso	198,55	550,02	0,07	1,00
SUHi018-A	Cell line 17 168 cl 1 Ecto	0,09	19,25	2184,87	1,00
SUHi022-A	Cell line 21 118:5 cl 1 Ecto	0,09	16,49	3075,63	1,00
SUHi023-A	Cell line 22 121:5 cl 5 Ecto	0,25	8,88	837,53	1,00
SUHi024-A	Cell line 23 174 cl 4 Ecto	0,86	11,71	501,46	1,00
SUHi017-A	Cell line 24 158 cl 4 Ecto	0,03	19,25	2759,13	1,00

A scientist with short blonde hair, wearing a white lab coat and a small hoop earring, is shown in profile, focused on her work. She is holding a pipette and appears to be in a laboratory setting. The background is slightly blurred, showing laboratory equipment and windows. The overall tone is professional and scientific.

Reprogramming of 24 patient fibroblast samples: QC analysis. Pluripotency test

22-03-2024

Berta Sanz Morello, PhD
Bioneer A/S

bioneer

Pluripotency analysis

hPSCreg ID	SAMPLES	OCT4	NANOG	GAPDH
SUHi001-A	Cell line 1 143 cl 1	1.19	0.95	1
SUHi002-A	Cell line 2 145 cl 2	0.99	0.92	1
SUHi003-A	Cell line 3 146 cl 1	1.23	0.88	1
SUHi004-A	Cell line 4 152 cl 3	1.00	0.56	1
SUHi005-A	Cell line 5 165 cl 2	0.98	0.75	1
SUHi006-A	Cell line 6 169 cl 3	1.16	0.65	1
SUHi007-A	Cell line 7 102:5 cl 1	1.41	0.75	1
SUHi008-A	Cell line 8 104:5 cl 2	1.21	0.94	1
SUHi010-A	Cell line 9 117:5 cl 3	1.16	1.11	1
SUHi014-A	Cell line 10 120:5 cl 3	0.92	0.62	1
SUHi013-A	Cell line 11 110:5 cl 1	0.81	0.82	1
SUHi009-A	Cell line 12 105:5 cl 3	1.20	0.77	1
SUHi011-A	Cell line 13 151 cl 1	1.11	0.79	1
SUHi012-A	Cell line 14 163 cl 2	1.01	0.87	1
SUHi015-A	Cell line 15 141 cl 3	0.65	0.84	1
SUHi016-A	Cell line 16 142:3 cl 1	0.80	1.15	1
SUHi018-A	Cell line 17 RES168 cl 1	0.91	0.89	1
SUHi020-A	Cell line 19 RES114:5 cl 3	1.13	0.66	1
SUHi021-A	Cell line 20 RES116:5 cl 2	0.74	0.73	1
SUHi022-A	Cell line 21 RES118:5 cl 1	0.80	0.60	1
SUHi023-A	Cell line 22 RES121:5 cl 5	0.81	0.38	1
SUHi024-A	Cell line 23 RES174 cl 4	0.78	0.47	1
SUHi017-A	Cell line 24 RES158 cl 4	0.93	0.55	1
Control	Control iPSC line: BIONi010-C	1	1	1

Fold over reference sample is based on the formula:

$$2^{-\left(\Delta\text{Ct target tissue} - \Delta\text{Ct reference tissue}\right)}$$

Where:

$\Delta\text{Ct} = \text{Ct gene of interest} - \text{Ct house keeping gene}$

Target tissue = reprogrammed cell lines

Reference tissue = iPSC line BIONi010-C

Genes of interest = OCT4, NANOG

Housekeeping gene = GAPDH

All reprogrammed lines tested showed pluripotency ability.