Morphology

Morphology of iPSCs 24 hours after thawing*:

hPSCreg ID
SUHi010-A

hPSCreg ID
SUHi014-A

hPSCreg ID
SUHi009-A

Cell line 9 117:5

Cell line 10 120:5

Cell line 12 105:5
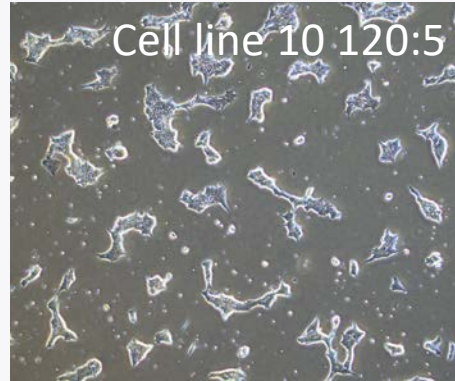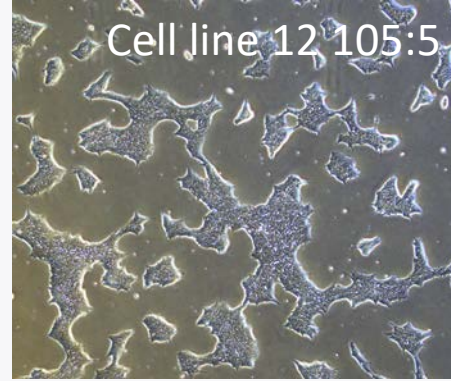
hPSCreg ID
SUHi011-A
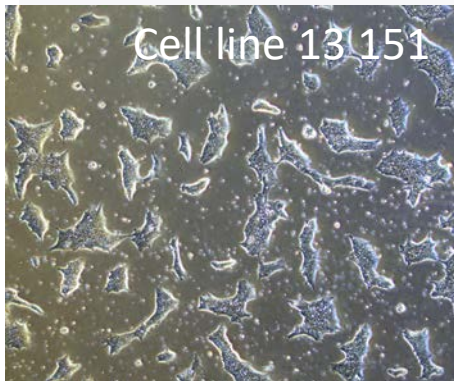
hPSCreg ID
SUHi012-A
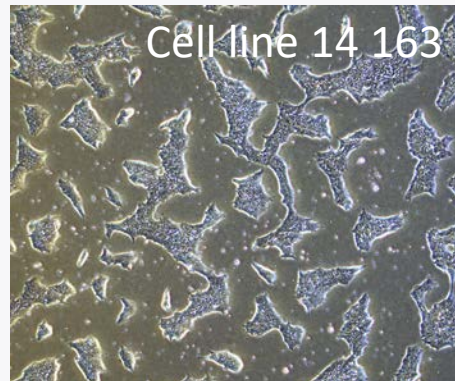
hPSCreg ID
SUHi015-A

hPSCreg ID
SUHi016-A

Cell line 13 151

Cell line 14 163

Cell line 15 141

Cell line 16 142
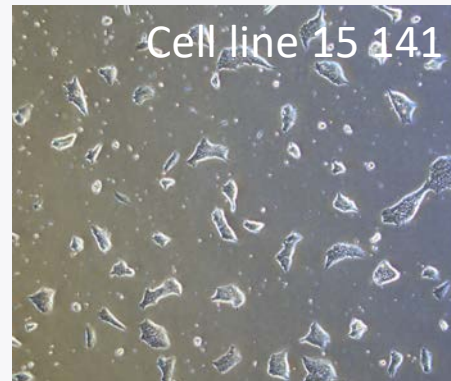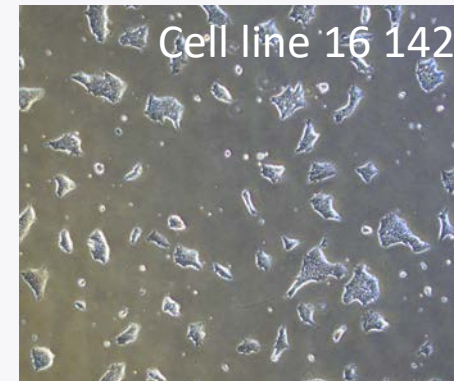
*Photos of the morphology of the iPSC lines before banking will be sent in a separate format (photos are too heavy to be included here).

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QC Overview

hPSCreg ID	Line ID	Clone	Mycoplasma	Sterility	Trilineage diff.
SUHi010-A	Cell line 9 117:5	3	Passed	Passed	Passed
SUHi014-A	Cell line 10 120:5	3	Passed	Passed	Passed
SUHi009-A	Cell line 12 105:5	3	Passed	Passed	Passed
SUHi011-A	Cell line 13 151	1	Passed	Passed	Passed
SUHi012-A	Cell line 14 163	2	Passed	Passed	Passed
SUHi015-A	Cell line 15 141	3	Passed	Passed	Passed
SUHi016-A	Cell line 16 142:3	1	Passed	Passed	Passed

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Mycoplasma test
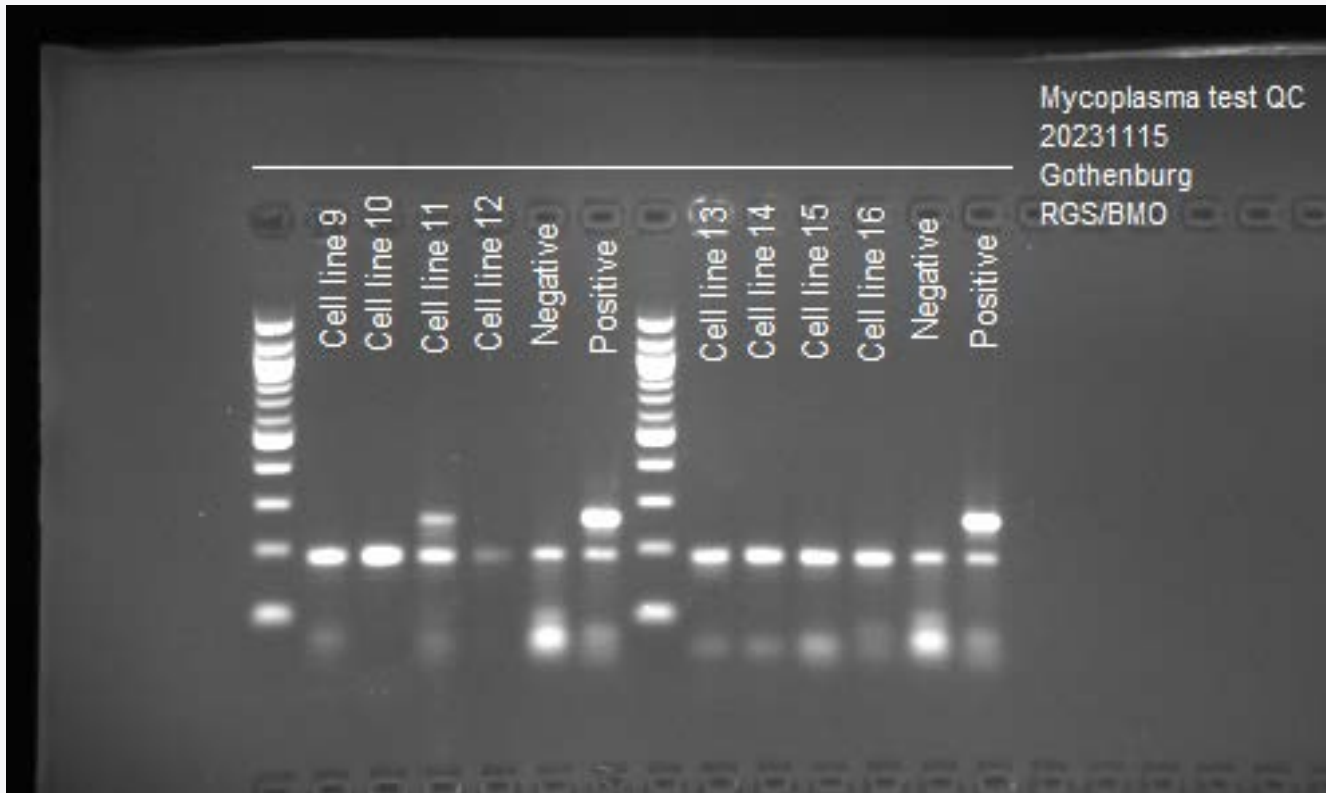
hPSCreg ID	Line ID	Clone
SUHi010-A	Cell line 9 117:5	3
SUHi014-A	Cell line 10 120:5	3
SUHi009-A	Cell line 12 105:5	3
SUHi011-A	Cell line 13 151	1
SUHi012-A	Cell line 14 163	2
SUHi015-A	Cell line 15 141	3
SUHi016-A	Cell line 16 142:3	1

*Cell line 11 110:5 cl 1 gave a false positive in the mycoplasma test and, therefore, was excluded from the trilineage differentiation. However, in a second and third mycoplasma test, it was shown to be negative. QC results for cell line 11 will be included in the next report.

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Sterility test

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

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Trilineage differentiation

hPSCreg ID	SAMPLES	GATA4 (Endo and Meso marker)	CRCR4 (Meso and Endo marker)	Pax 6 (Ecto marker)	GAPDH
		Fold over reference sample			
SUHi010-A	Cell line 9 117:5 Cl. 3 iPSC	1	1	1	1
SUHi014-A	Cell line 10 120:5 Cl. 3 iPSC	1	1	1	1
SUHi009-A	Cell line 12 105:5 Cl. 3 iPSC	1	1	1	1
SUHi011-A	Cell line 13 151 cl 1 iPSC	1	1	1	1
SUHi012-A	Cell line 14 163 cl 2 iPSC	1	1	1	1
SUHi015-A	Cell line 15 141 cl 3 iPSC	1	1	1	1
SUHi016-A	Cell line 16 142:3 cl 1 iPSC	1	1	1	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Endo	6266,02	66,87	24,59	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Endo	37208,21	271,22	639,15	1
SUHi009-A	Cell line 12 105:5 Cl. 3 E Endo	17722,98	236,11	58,22	1
SUHi011-A	Cell line 13 151 cl 1 Endo	4379,85	91,35	36,93	1
SUHi012-A	Cell line 14 163 cl 2 Endo	797,86	17,63	1,58	1
SUHi015-A	Cell line 15 141 cl 3 Endo	3484,33	78,07	6,74	1
SUHi016-A	Cell line 16 142:3 cl 1 Endo	5196,53	78,07	9,08	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Meso	1499,22	137,82	0,04	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Meso	1382,76	826,00	0,07	1
SUHi009-A	Cell line 12 105:5 Cl. 3 Meso	1040,70	481,04	0,02	1
SUHi011-A	Cell line 13 151 cl 1 Meso	1136,20	346,49	0,06	1
SUHi012-A	Cell line 14 163 cl 2 Meso	758,32	216,77	0,01	1
SUHi015-A	Cell line 15 141 cl 3 Meso	712,46	424,61	0,02	1
SUHi016-A	Cell line 16 142:3 cl 1 Meso	812,75	387,13	0,02	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Ecto	0,19	9,11	564,18	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Ecto	2,26	49,64	12795,36	1
SUHi009-A	Cell line 12 105:5 Cl. 3 Ecto	0,42	16,37	3404,75	1
SUHi011-A	Cell line 13 151 cl 1 Ecto	0,33	23,00	7315,12	1
SUHi012-A	Cell line 14 163 cl 2 Ecto	0,70	9,92	1888,90	1
SUHi015-A	Cell line 15 141 cl 3 Ecto	0,16	12,52	2057,49	1
SUHi016-A	Cell line 16 142:3 cl 1 Ecto	0,39	6,68	526,39	1

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

hPSCreg ID	SAMPLES	Fold over reference sample			
		GATA4 (Endo and Meso marker)	CRCR4 (Meso and Endo marker)	Pax 6 (Ecto marker)	GAPDH
SUHi010-A	Cell line 9 117:5 Cl. 3 iPSC	1	1	1	1
SUHi014-A	Cell line 10 120:5 Cl. 3 iPSC	1	1	1	1
SUHi009-A	Cell line 12 105:5 Cl. 3 iPSC	1	1	1	1
SUHi011-A	Cell line 13 151 cl 1 iPSC	1	1	1	1
SUHi012-A	Cell line 14 163 cl 2 iPSC	1	1	1	1
SUHi015-A	Cell line 15 141 cl 3 iPSC	1	1	1	1
SUHi016-A	Cell line 16 142:3 cl 1 iPSC	1	1	1	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Endo	6266,02	66,87	24,59	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Endo	37208,21	271,22	639,15	1
SUHi009-A	Cell line 12 105:5 Cl. 3 E Endo	17722,98	236,11	58,22	1
SUHi011-A	Cell line 13 151 cl 1 Endo	4379,85	91,35	36,93	1
SUHi012-A	Cell line 14 163 cl 2 Endo	797,86	17,63	1,58	1
SUHi015-A	Cell line 15 141 cl 3 Endo	3484,33	78,07	6,74	1
SUHi016-A	Cell line 16 142:3 cl 1 Endo	5196,53	78,07	9,08	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Meso	1499,22	137,82	0,04	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Meso	1382,76	826,00	0,07	1
SUHi009-A	Cell line 12 105:5 Cl. 3 Meso	1040,70	481,04	0,02	1
SUHi011-A	Cell line 13 151 cl 1 Meso	1136,20	346,49	0,06	1
SUHi012-A	Cell line 14 163 cl 2 Meso	758,32	216,77	0,01	1
SUHi015-A	Cell line 15 141 cl 3 Meso	712,46	424,61	0,02	1
SUHi016-A	Cell line 16 142:3 cl 1 Meso	812,75	387,13	0,02	1
SUHi010-A	Cell line 9 117:5 Cl. 3 Ecto	0,19	9,11	564,18	1
SUHi014-A	Cell line 10 120:5 Cl. 3 Ecto	2,26	49,64	12795,36	1
SUHi009-A	Cell line 12 105:5 Cl. 3 Ecto	0,42	16,37	3404,75	1
SUHi011-A	Cell line 13 151 cl 1 Ecto	0,33	23,00	7315,12	1
SUHi012-A	Cell line 14 163 cl 2 Ecto	0,70	9,92	1888,90	1
SUHi015-A	Cell line 15 141 cl 3 Ecto	0,16	12,52	2057,49	1
SUHi016-A	Cell line 16 142:3 cl 1 Ecto	0,39	6,68	526,39	1

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

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

22-03-2024

Berta Sanz Morello, PhD
Bioneer A/S

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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:

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

Where:
ΔCt = Ct gene of interest – 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.

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