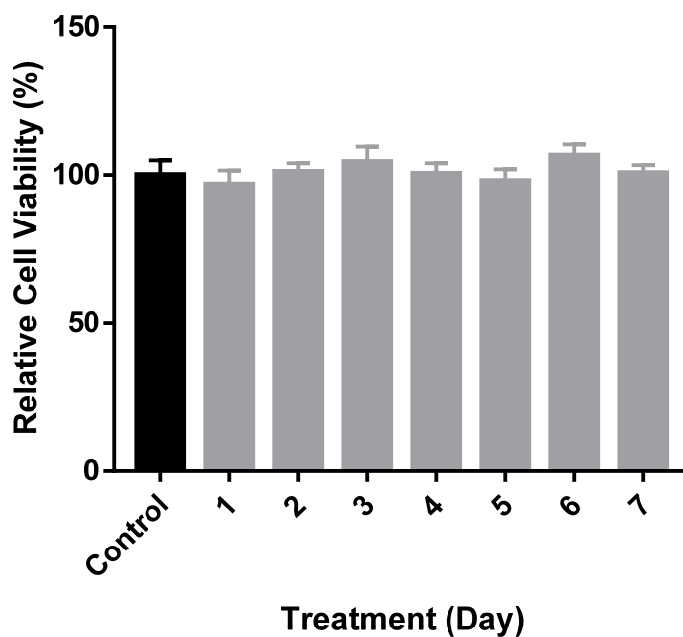


## Supporting Information

### Two-Photon Polymerization of Topological Cues for Human iPSC Differentiation

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**Figure S1: Biocompatibility of polymerized photoresist.** Viability of iPSCs incubated with differentiation media that was conditioned by exposure to polymerized IP-L-780 (2PP photoresist) for up to seven days. Error bars represent standard deviation (n= 4).

**Table S1:** Number of replicates (n) with detectable signal for each target gene used to compare gene expression of stem cells grown on topographical features to a pluripotent population.

Targets shown in grey were excluded from analysis.

<b>Target Name</b>	<b>Category</b>	<b>Control</b>	<b>1.6 <math>\mu</math>m</b>	<b>8 <math>\mu</math>m</b>
CXCL5	Self-renewal	2	1	1
DNMT3B	Self-renewal	3	1	3
HESX1	Self-renewal	0	0	0
IDO1	Self-renewal	0	0	0
LCK	Self-renewal	0	0	0
NANOG	Self-renewal	2	1	3
POU5F1	Self-renewal	2	1	2
SOX2	Self-renewal	3	1	3
TRIM22	Self-renewal	2	1	0
CDH9	Ectoderm	0	0	0
COL2A1	Ectoderm	0	1	0
DMBX1	Ectoderm	0	0	0
DRD4	Ectoderm	1	0	0
EN1	Ectoderm	0	0	0
LMX1A	Ectoderm	0	0	0
MAP2	Ectoderm	3	1	1
MYO3B	Ectoderm	0	0	0
NOS2	Ectoderm	0	0	0
NR2F1/NR2F2	Ectoderm	1	0	0
NR2F2	Ectoderm	2	1	1
OLFM3	Ectoderm	0	0	0
PAPLN	Ectoderm	0	0	0
PAX3	Ectoderm	1	0	0
PAX6	Ectoderm	0	1	0
POU4F1	Ectoderm	0	0	0
PRKCA	Ectoderm	2	0	0
SDC2	Ectoderm	3	1	2
SOX1	Ectoderm	0	0	0
TRPM8	Ectoderm	0	0	0
WNT1	Ectoderm	0	0	0
ZBTB16	Ectoderm	1	0	0
ABCA4	Mesoderm	1	0	0
ALOX15	Mesoderm	0	0	0
BMP10	Mesoderm	0	0	0
CDH5	Mesoderm	1	0	0
CDX2	Mesoderm	0	0	0

COLEC10	Mesoderm	1	1	1
ESM1	Mesoderm	1	0	0
FCN3	Mesoderm	0	0	0
FOXF1	Mesoderm	3	1	0
HAND1	Mesoderm	1	1	3
HAND2	Mesoderm	0	0	0
HEY1	Mesoderm	2	1	0
HOPX	Mesoderm	1	0	0
IL6ST	Mesoderm	3	1	1
NKX2-5	Mesoderm	1	0	0
ODAM	Mesoderm	0	0	0
PDGFRA	Mesoderm	3	1	0
PLVAP	Mesoderm	0	0	0
RGS4	Mesoderm	2	1	0
SNAI2	Mesoderm	2	1	0
TBX3	Mesoderm	2	1	0
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AFP	Endoderm	0	1	0
CABP7	Endoderm	0	0	0
CDH20	Endoderm	0	0	0
CLDN1	Endoderm	3	1	2
CPLX2	Endoderm	0	0	0
ELAVL3	Endoderm	0	0	0
EOMES	Endoderm	2	0	1
FOXA1	Endoderm	1	1	0
FOXA2	Endoderm	0	0	0
FOXP2	Endoderm	1	0	0
GATA4	Endoderm	0	0	0
GATA6	Endoderm	2	1	1
HHEX	Endoderm	0	1	0
HMP19	Endoderm	0	0	0
HNF1B	Endoderm	0	0	0
HNF4A	Endoderm	0	0	0
KLF5	Endoderm	2	1	1
LEFTY1	Endoderm	0	0	0
LEFTY2	Endoderm	0	0	1
NODAL	Endoderm	1	0	0
PHOX2B	Endoderm	0	0	0
POU3F3	Endoderm	0	0	0
PRDM1	Endoderm	2	1	0
RXRG	Endoderm	0	0	0
SOX17	Endoderm	0	0	0
SST	Endoderm	0	0	0
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**Table S2:** Average threshold cycle (Ct, avg) and number of replicates (n) with detectable signal for each target gene used to compare gene expression of stem cells grown on topographical features to those grown on a feature-less glass control. Targets shown in grey were excluded from analysis.

Target Name	Category	Control		1.6 $\mu$ m		8 $\mu$ m	
		Ct, avg	n	Ct, avg	n	Ct, avg	n
ACTB	Controls	29.50	3	28.41	1	33.24	3
ACTB	Controls	32.72	3	33.03	1	37.04	3
ACTB	Controls	32.70	3	33.40	1	37.02	3
ACTB	Controls	29.86	3	28.58	1	33.59	3
CTCF	Controls	33.73	3	35.12	1	35.45	1
EP300	Controls	37.17	2	35.58	1		0
SMAD1	Controls	34.28	3	35.56	1	36.30	1
CXCL5	Self-renewal	37.51	2	36.12	1	36.92	1
DNMT3B	Self-renewal	35.65	3	34.29	1	36.54	3
HESX1	Self-renewal		0		0		0
IDO1	Self-renewal		0		0		0
LCK	Self-renewal		0		0		0
NANOG	Self-renewal	35.36	2	38.31	1	38.30	3
POU5F1	Self-renewal	38.72	2	38.51	1	37.77	2
SOX2	Self-renewal	35.51	3	34.20	1	37.09	3
TRIM22	Self-renewal	35.96	2	37.59	1		0
CDH9	Ectoderm		0		0		0
COL2A1	Ectoderm		0	38.81	1		0
DMBX1	Ectoderm		0		0		0
DRD4	Ectoderm	38.81	1		0		0
EN1	Ectoderm		0		0		0
LMX1A	Ectoderm		0		0		0
MAP2	Ectoderm	36.45	3	37.20	1	38.60	1
MYO3B	Ectoderm		0		0		0
NOS2	Ectoderm		0		0		0
NR2F1/NR2F2	Ectoderm	38.02	1		0		0
NR2F2	Ectoderm	33.77	2	37.91	1	36.95	1
OLFM3	Ectoderm		0		0		0
PAPLN	Ectoderm		0		0		0
PAX3	Ectoderm	39.7	1		0		0
PAX6	Ectoderm		0	38.18	1		0
POU4F1	Ectoderm		0		0		0
PRKCA	Ectoderm	35.255	2		0		0

SDC2	Ectoderm	35.22	3	34.31	1	37.73	2
SOX1	Ectoderm		0		0		0
TRPM8	Ectoderm		0		0		0
WNT1	Ectoderm		0		0		0
ZBTB16	Ectoderm	38.10	1		0		0
ABCA4	Mesoderm	38.10	1		0		0
ALOX15	Mesoderm		0		0		0
BMP10	Mesoderm		0		0		0
CDH5	Mesoderm	37.58	1		0		0
CDX2	Mesoderm		0		0		0
COLEC10	Mesoderm	36.21	1	38.55	1	35.79	1
ESM1	Mesoderm	37.29	1		0		0
FCN3	Mesoderm		0		0		0
FOXF1	Mesoderm	38.58	3	37.75	1		0
HAND1	Mesoderm	35.81	1	35.95	1	38.86	3
HAND2	Mesoderm		0		0		0
HEY1	Mesoderm	37.49	2	34.18	1		0
HOPX	Mesoderm	34.95	1		0		0
IL6ST	Mesoderm	33.99	3	35.34	1	36.82	1
NKX2-5	Mesoderm	36.98	1		0		0
ODAM	Mesoderm		0		0		0
PDGFRA	Mesoderm	37.25	3	37.80	1		0
PLVAP	Mesoderm		0		0		0
RGS4	Mesoderm	36.36	2	36.21	1		0
SNAI2	Mesoderm	34.71	2	36.29	1		0
TBX3	Mesoderm	37.65	2	35.57	1		0
AFP	Endoderm		0	38.53	1		0
CABP7	Endoderm		0		0		0
CDH20	Endoderm		0		0		0
CLDN1	Endoderm	36.21	3	37.22	1	38.585	2
CPLX2	Endoderm		0		0		0
ELAVL3	Endoderm		0		0		0
EOMES	Endoderm	36.44	2		0	38.04	1
FOXA1	Endoderm	36.89	1	37.53	1		0
FOXA2	Endoderm		0		0		0
FOXP2	Endoderm	39.19	1		0		0
GATA4	Endoderm		0		0		0
GATA6	Endoderm	36.095	2	35.29	1	39.49	1
HHEX	Endoderm		0	37.83	1		0
HMP19	Endoderm		0		0		0
HNF1B	Endoderm		0		0		0
HNF4A	Endoderm		0		0		0
KLF5	Endoderm	36.185	2	35.5	1	39.26	1
LEFTY1	Endoderm		0		0		0

LEFTY2	Endoderm		0		0	38.23	1
NODAL	Endoderm	36.9	1		0		0
PHOX2B	Endoderm		0		0		0
POU3F3	Endoderm		0		0		0
<b>PRDM1</b>	<b>Endoderm</b>	<b>36.69</b>	<b>2</b>	<b>34.76</b>	<b>1</b>		<b>0</b>
RXRG	Endoderm		0		0		0
SOX17	Endoderm		0		0		0
SST	Endoderm		0		0		0

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