

Strategy for creation of clinical grade hESC line banks that HLA-match target population

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SUPPORTING INFORMATION TABLE OF CONTENTS:

Supplementary Figures

Supplementary Figure 1 S2

Supplementary Figure 2 S3

Supplementary Tables

Supplementary Table 1 S4

Supplementary Table 2 S5 - S11

Figure S1. Characterization of our clinical grade hESC lines including fingerprinting, karyotype, pluripotency and differentiation potential. NYD, not yet done.

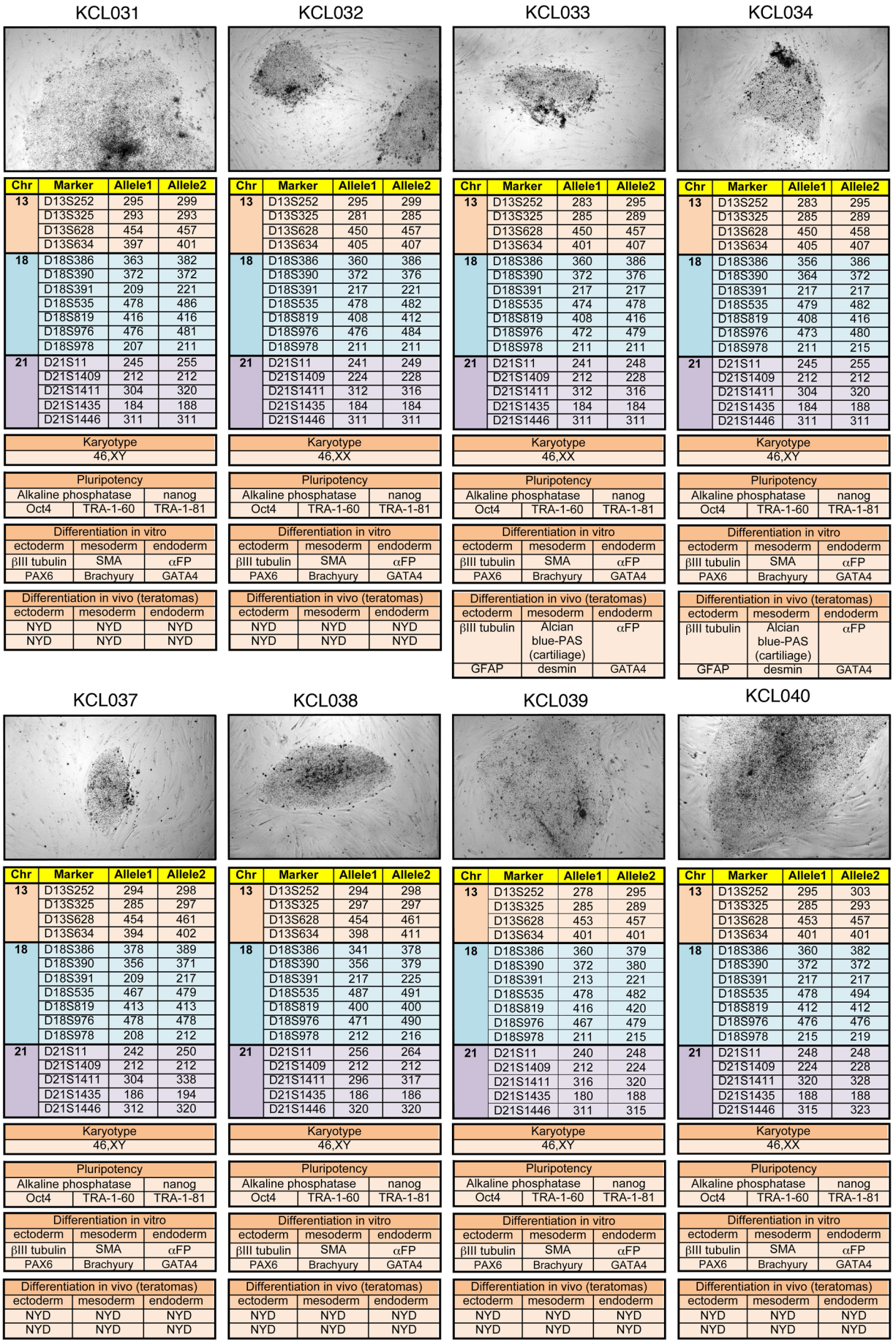
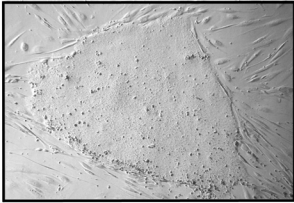
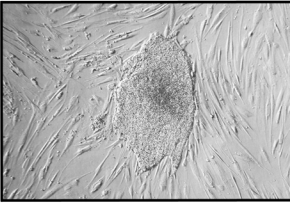
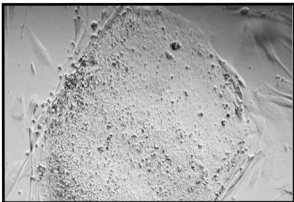
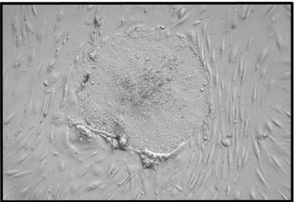
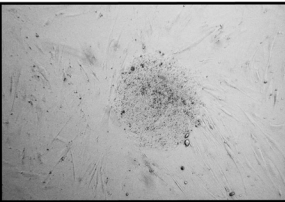


Figure S2. Characterization of our HD hESC lines including fingerprinting, karyotype, pluripotency and differentiation potential. NYD, not yet done.

KCL012				KCL013			
							
Chr	Marker	Allele1	Allele2	Chr	Marker	Allele1	Allele2
13	D13S252	278	290	13	D13S252	278	299
	D13S325	292	301		D13S325	297	301
	D13S628	446	457		D13S628	446	457
	D13S634	398	405		D13S634	397	405
18	D18S386	367	383	18	D18S386	356	356
	D18S390	360	372		D18S390	364	368
	D18S391	217	217		D18S391	217	217
	D18S535	478	478		D18S535	478	499
	D18S819	416	416		D18S819	412	420
	D18S976	480	483		D18S976	480	483
	D18S978	211	219		D18S978	211	211
21	D21S11	244	252	21	D21S11	241	241
	D21S1409	212	224		D21S1409	212	220
	D21S1411	323	323		D21S1411	324	324
	D21S1435	184	188		D21S1435	184	188
	D21S1446	331	331		D21S1446	319	339
Karyotype 46,XY				Karyotype 46,XY			
Pluripotency Alkaline phosphatase nanog Oct4 TRA-1-60 TRA-1-81				Pluripotency Alkaline phosphatase nanog Oct4 TRA-1-60 TRA-1-81			
Differentiation in vitro ectoderm mesoderm endoderm βIII tubulin SMA αFP				Differentiation in vitro ectoderm mesoderm endoderm βIII tubulin SMA αFP			
Differentiation in vivo (teratomas) ectoderm mesoderm endoderm NYD NYD NYD NYD NYD NYD				Differentiation in vivo (teratomas) ectoderm mesoderm endoderm NYD NYD NYD NYD NYD NYD			

KCL027				KCL028				KCL036			
											
Chr	Marker	Allele1	Allele2	Chr	Marker	Allele1	Allele2	Chr	Marker	Allele1	Allele2
13	D13S252	299	303	13	D13S252	299	303	13	D13S252	278	299
	D13S325	289	293		D13S325	289	293		D13S325	293	301
	D13S628	450	457		D13S628	450	458		D13S628	453	453
	D13S634	394	405		D13S634	394	405		D13S634	397	401
18	D18S386	356	386	18	D18S386	356	386	18	D18S386	379	382
	D18S390	372	372		D18S390	372	372		D18S390	368	372
	D18S391	217	217		D18S391	217	217		D18S391	209	217
	D18S535	486	486		D18S535	486	486		D18S535	478	482
	D18S819	412	420		D18S819	412	420		D18S819	400	408
	D18S976	473	483		D18S976	473	483		D18S976	476	483
	D18S978	211	211		D18S978	211	211		D18S978	211	211
21	D21S11	245	245	21	D21S11	244	244	21	D21S11	249	259
	D21S1409	212	220		D21S1409	212	220		D21S1409	216	224
	D21S1411	312	324		D21S1411	312	324		D21S1411	312	316
	D21S1435	193	193		D21S1435	192	192		D21S1435	188	188
	D21S1446	311	315		D21S1446	311	315		D21S1446	311	325
Karyotype 46,XY				Karyotype 46,XY				Karyotype 46,XX			
Pluripotency Alkaline phosphatase nanog Oct4 TRA-1-60 TRA-1-81				Pluripotency Alkaline phosphatase nanog Oct4 TRA-1-60 TRA-1-81				Pluripotency Alkaline phosphatase nanog Oct4 TRA-1-60 TRA-1-81			
Differentiation in vitro ectoderm mesoderm endoderm βIII tubulin SMA αFP PAX6 Brachyury GATA4				Differentiation in vitro ectoderm mesoderm endoderm βIII tubulin SMA αFP PAX6 Brachyury GATA4				Differentiation in vitro ectoderm mesoderm endoderm βIII tubulin SMA αFP PAX6 Brachyury GATA4			
Differentiation in vivo (teratomas) ectoderm mesoderm endoderm βIII tubulin Alcian blue-PAS (cartilage) αFP GFAP desmin GATA4				Differentiation in vivo (teratomas) ectoderm mesoderm endoderm βIII tubulin Alcian blue-PAS (cartilage) αFP GFAP desmin GATA4				Differentiation in vivo (teratomas) ectoderm mesoderm endoderm NYD NYD NYD NYD NYD NYD			

Supplementary Table 1. HLA haplotypes for our clinical grade lines.

Medium resolution haplotyping was selected as an equivalent to that used for solid organ donation with the addition of immunosuppression.

hESC line	HLA-A*	HLA-B*	HLA-Bw	HLA-C*	HLA-DRB1*	HLA-DRB3/4/5*	HLA-DQB1*
KCL031	02	51	4	14:01/07N/11/14	11	3*02	03:01/19/21/22/24
	24	52:01/04/07/13		12:02/17/22/30	15	5*01	06:01
KCL032	02	15	6	03	04:07	4*01	03:01/19/21/22/24
	11	51	4	04	13:02/39/73/96	3*03	06:04/27/34/36/38/39
KCL033	11	44	4	16	04:07	4*01	03:01/19/21/22/24
	29	51		04	07		02:02
KCL034	11	44	4	16	04:07	4*01	03:01/19/21/22/24
	29	51		04	07		02:02
KCL037	02	35	6	03	01	3*03	05:01
	03	40		04	13:02/39/73/96		06
KCL038	03	07	6	03	14	3*02	05:03
	11	15		07	15	5*01	06:02/11/16/33
KCL039	01	35:02/83	4	04	3	3*01/02	02:01/04/05
	24	49:01/06/08		07			
KCL040	03	07	6	03	04:04/23/42/56/70	4*01, 5*01	03:02
	24	15		07	15		06:02/11/14/26N

Supplementary Table 2. Self-declared ethnicity of all patients attending Guy's ACU for treatment in 2010.

Each couple completes a standard registration form at the beginning of treatment, in which they declare their ethnicity in an open format. Results are presented exactly as written without amalgamation.

Ethnicities of all PGD patients

(from 165 PGD patients, 158 females and 156 males stated their ethnicity)

Ethnicity	No.	Ethnicity	No.
FEMALE		MALE	
White British	99	White British	103
White Irish	13	White Irish	12
Indian	7	Indian	5
Chinese	5	Chinese	5
Black African	4	Black African	4
Arab	3	Arab	3
White Welsh	2	Pakistani	3
White	2	White Welsh	2
Japanese	2	White Italian	2
Pakistani	2	White	1
Asian	1	Asian	1
Sri Lankan	1	Sri Lankan	1
Bangladeshi	1	Bangladeshi	1
Black British	1	Black British	1
Chilean	1	Greek Cypriot	1
Greek Cypriot	1	Jewish	1
Iranian	1	White S.african	1
Jewish	1	White Netherlands	1
Latino/S.American	1	White Lithuanian	1
Vietnamese	1	White NewZealand	1
White Finnish	1	White European	1
White French	1	White German	1
White NewZealand	1	White Scottish	1

White Polish	1	White Uruguay	1
White Russian	1	Mixed (Irish & Italian)	1
White Scottish	1	Mixed (White & Black)	1
White Serbian	1		
White Uruguay	1		
Mixed (White & Black)	1		
Total	158	Total	156

Ethnicities of all ICSI & IVF patients:**Female****Total 873**

Ethnicity	No.	Ethnicity	No.
Afghani	6	White Columbian	3
African American	1	Mixed (Black and white)	2
Albanian	1	Moroccan	1
Algerian	1	Other White	1
Anglo-Indian	1	Pakistani	20
Arab	2	Polish/Turkish	1
Asian	31	Portuguese	5
Asian Mauritian	1	White Romanian	6
Asian Filipino	7	White South African	10
Sri Lankan	19	Serbian	1
Indian	94	Somalian	3
Japanese	9	Sudanese	1
Asian/Oriental	1	Tamil	2
Bangladeshi	7	Turkish	1
Black African	93	Vietnamese	3
Black Caribbean	14	West Indian	1
Black British	22	White	1
Black Mixed	1	White/Asian	1
Black Saotome	1	German/Portuguese	1
Black/West Indian	1	White Polish	12
Brazilian	6	White American	8
Bulgarian	6	White Australian	7
Caribbean/Indian	1	White Azerbaijan	1

Chinese	20	White British	297
Croatian	1	White Hungarian	1
European/Asian	1	White Italian	11
White French	11	White European	9
Greek	5	White German	7
Greek/Irish	1	White Irish	23
Hispanic	3	White Latvian	1
White British/Australian	1	White Lithuanian	6
Iranian	4	White Moldovan	2
Iraqi	2	White Netherlands	1
Jewish	1	White New Zealand	4
Korean	1	White Norwegian	2
Kuwaiti	1	White Russian	1
Kyrgyz	1	White Serbian	1
Latin American	3	White Slovakian	2
Chilean	1	White Spanish	7
White Canadian	3	White Ukrainian	4
Malaysian	2	White Uzbekistani	1
Mauritian	2	White/Indian	1
Middle Eastern	2	White Scandinavian	1
Mixed	4	White Czech	1
White Dutch	1	White Estonia	1

Appendix B

Ethnicities of all ICSI & IVF patients:

Male

Total 870

Ethnicity	No.	Ethnicity	No.
Afghani	5	Mixed (Black and white)	1
Anglosaxon	1	Moroccan	1
Albanian	2	Other White	3
Algerian	4	Pakistani	22
Armenian	1	Egyptian	1
Arab	1	Portuguese	7
Asian	27	White Romanian	4
Asian Mauritian	1	White South African	12
Asian Filipino	7	Serbian	1
Sri Lankan	19	Somalian	3
Indian	88	Sudanese	1
Japanese	2	Tamil	2
Asian/Oriental	1	Turkish	2
Bangladeshi	8	Vietnamese	2
Black African	87	West Indian	1
Black Caribbean	15	White	3
Black Jamaican	2	Nepalese	1
Black other	1	White Scottish	2
Black British	16	White/Asian	2
Armenian	1	White Polish	12
Black Saotome	1	White American	8
Brazilian	2	White Australian	4

Bulgarian	6	White Swedish	1
Indian/Portuguese	1	White British	346
Chinese	12	White Italian	12
Croatian	1	White European	11
White French	5	White German	5
Greek	3	White Irish	30
Palestinian	1	White Mediterranean	1
Hispanic	1	White Lithuanian	3
Kazakh	1	White Moldovan	1
Iranian	4	White Netherlands	4
Iraqi	2	White New Zealand	6
Jewish	1	White Russian	2
Latino	1	White Welsh	2
Kuwaiti	1	White Slovakian	3
Latin American	1	White Spanish	1
White Canadian	3	White Ukrainian	3
Malaysian	1	White Estonia	1
Mauritian	1		
Middle Eastern	2		
Mixed	4		