

REPORT OF THE 53rd UCLA INTERNATIONAL KIR EXCHANGE

OCTOBER 22, 2021

KIR 219-224

For the 53rd KIR Exchange, 6 DNA samples (KDNA#219 - 224) were shipped to 67 laboratories worldwide. KIR typing results were received from 66 of the laboratories.

The results for the 53rd KIR Exchange are summarized in Table 1 and individual laboratory results reported for each DNA sample are provided in

Tables 2 - 7. Subtyping results for all 16 KIR genes, including 2DS4 and 3DP1 (denoted as FULL or DEL) were reported by some labs. We would encourage other labs to begin reporting subtypes as well. Discrepant results from consensus are italicized in tables 1 - 7. Discrepancies at the allele level are not italicized.

KDNA # 219: KIR2DL2-2DL4-3DL1-3DL2-3DL3-2DS2-2DS4FULL&DEL-3DP1FULL was the reported consensus type for this sample from a Hispanic donor. A number of discrepancies were reported for this sample. One lab reported 2DL5 as positive, 2 labs reported 3DS1 as positive, and 1 lab reported 2DS4 as negative.

Predicted haplotypes:

Arnold - homozygous "BA1"

Falco - CenB2/CenB2 + TelA/TelA regions

KDNA # 220: KIR2DL1-2DL2-2DL4-2DL5A&B-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS3-2DS4FULL-2DP1-3DP1FULL&DEL was the reported consensus type for this sample from a Caucasian donor. One lab reported this sample as negative for 2DL2 and 2 labs reported it as positive for 2DL3.

Arnold noted this sample "encodes for cysteine (C) at KIR2DL1 codon 245." In addition, Falco commented on the haplotypes present, noting that the sample "has one CenB1 and one CenB2 region, one Tel A and one TelB2 (namely telomeric 2DS3 positive) region."

KDNA # 221: KIR2DL2-2DL4-3DL1-3DL2-3DL3-3DS1-2DS2-2DS4FULL&DEL-3DP1FULL was the reported consensus type for this donor whose ethnicity is unknown. Discrepancies were observed across 4 loci. One lab reported 2DL2 as negative, 1 lab reported 2DL3 as positive, 1 lab reported 2DL5 as positive, and 1 lab reported 3DS1 as negative.

Falco kindly shared the following observations for this sample: "This donor is characterized by 2 CenB2 regions. Moreover, the analysis of the KIR genes included in the telomeric regions revealed the presence of a TelA and a TelB region including 3DS1 but missing 2DL5A, 2DS3/S5, and 2DS1. This gene content suggested the presence of an expanded telomeric region (first described by Martin and colleagues, JI 2003, 171:2192-2195). The presence of this expanded telomeric region was verified using a set of primers allowing the amplification of 2DL5A/3DP1 hybrid gene (i.e., 3DP1*004) that characterized this extended telomeric region."

KDNA # 222: KIR2DL1-2DL2-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS4FULL-2DS5-2DP1-3DP1FULL&DEL was the reported consensus type for this sample from a Hispanic donor. Only a single discrepancy was reported in this sample, with 1 lab reporting 2DL3 as negative instead of positive. Arnold observed this sample encodes "for arginine (R) at KIR2DL1 codon 245." Falco noted the "donor is characterized by CenA/CenB2 and TelA/TelB1 regions (namely telomeric 2DS5 positive)."

KDNA # 223: KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4FULL-2DS5-2DP1-3DP1DEL was the reported consensus type for this sample from a Chinese donor. No discrepancies were reported for this sample. Arnold noted the sample encodes “for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes:

Arnold - "A" and "AB"

Falco - CenA/CenA and TelA/TelB1

KDNA # 224: KIR2DL1-2DL2-2DL3-2DL4-2DL5A-3DL2-3DL3-3DS1-2DS1-2DS2-2DS5-2DP1-3DP1FULL&DEL was the reported consensus type for this sample from a Hispanic donor. There was only 1 discrepancy reported for this sample, in which 1 lab reported 3DL1 as positive instead of negative. As with KIR samples 222 and 223, Arnold observed that this sample also encodes “for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes:

Arnold - "AB" and "Bdel"

NEXT MAILING DATE: February 2, 2022

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Table 1. Summary of the 53rd KIR Exchange (KDNA #219-224)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#53	219	66	NEG[66]	POS[65] *00301[1]	NEG[66]	POS[64] *0010201+ *0080101[1] NT[1]	NEG[65] <i>POS[1]</i>	POS[65] *00101+ *01502 [1]	POS[66]	POS[65] NT[1]	NEG[64] <i>POS[2]</i>	NEG[65] NT[1]	POS[65] *00101[1]	NEG[66]	POS[50] FULL, DEL[15] <i>NEG[1]</i>	NEG[66]	NEG[64] NT[2]	POS[51] FULL[11] *007+ *013[1] DEL[1] NT[2]
	220	66	POS[65] *0040101[1]	POS[64] *00101[1] <i>NEG[1]</i>	NEG[64] <i>POS[2]</i>	POS[64] *0010301+ *00501[1] NT[1]	POS[56] A,B[7] B[2] *00501[1]	POS[64] *02001[1] *001[1]	POS[65] *00102+*1 12[1]	POS[64] *01402+ *036[1] NT[1]	POS[66]	POS[63] *002[1] *002-*009[1] NT[1]	POS[65] *00101[1]	POS[65] *00103[1]	POS[53] FULL[11] FULL, DEL[2]	NEG[66]	POS[63] *00102[1] NT[2]	POS[52] FULL, DEL[11] *0030101/ *0030102+ *004[1] NT[2]
	221	66	NEG[66]	POS[64] *00301[1] <i>NEG[1]</i>	NEG[65] <i>POS[1]</i>	POS[64] *00102+ *01101[1] NT[1]	NEG[65] <i>POS[1]</i>	POS[64] *001[1] *00101+ *00201[1]	POS[65] *01004+ *0020101/ *092[1]	POS[64] *00301+ *00402[1] NT[1]	POS[64] *010+ *01301[1] <i>NEG[1]</i>	NEG[65] NT[1]	POS[65] *00101[1]	NEG[66]	POS[51] FULL, DEL[14] *00101+ *00301[1]	NEG[66]	NEG[64] NT[2]	POS[52] FULL[11] DEL[1] NT[2]
	222	66	POS[65] *0030205[1]	POS[65] *00301[1]	POS[64] *00101[1] <i>NEG[1]</i>	POS[64] *0010201+ *00501[1] NT[1]	POS[56] A[8] A,B[1] *00101+ *00801[1]	POS[64] *01502[1] *001[1]	POS[65] *00601+ *10701[1]	POS[64] *00301+ *00802[1] NT[1]	POS[66]	POS[63] *002[1] *002-*009[1] NT[1]	POS[65] *00101[1]	NEG[66]	POS[51] FULL[14] *020[1]	POS[65] *015[1]	POS[63] *00201[1] NT[2]	POS[53] FULL, DEL[11] NT[2]
	223	66	POS[65] *001[1]	NEG[65] <i>POS[1]</i>	POS[65] *00101+ *00201[1]	POS[64] *0010201+ *00501[1] NT[1]	POS[56] A[8] A,B,[1] *00101[1]	POS[64] *001[1] *01502[1]	POS[65] *00601+ *10701 [1]	POS[64] *00102+ *00802[1] NT[1]	POS[66]	POS[64] *002-*009[1] NT[1]	NEG[66]	NEG[66]	POS[52] FULL[14]	POS[65] *015+ *0020104/ *015[1]	POS[63] *00201+ *00301[1] NT[2]	POS[50] DEL[10] *003[1] *004+*006 FULL[1] FULL, DEL[1] FULL[1] NT[2]
	224	66	POS[64] *001[1] *00101[1]	POS[64] *001[1] *00301[1]	POS[65] *00501[1]	POS[64] *00501[1] NT[1]	POS[56] A[8] *00101[1] A,B[1]	NEG[65] <i>POS[1]</i>	POS[65] *00701+ *027[1]	POS[65] NT[1]	POS[65] *01301[1]	POS[63] *002[1] *002-*009[1] NT[1]	POS[65] *00101+ *00104[1]	NEG[66]	NEG[65] FULL[1]	POS[65] *015[1]	POS[64] NT[2]	POS[53] FULL, DEL[11] NT[2]

[] - number of labs reporting allele assignment/POS/NEG/NT
 POS - Presence of gene
 NEG - Absence of gene
 NT - Not typed
 italics - assignment different from consensus
 Subtypes of 2DS4 and 3DP1 are designated as FULL and/or DEL

Methods
 NGS - Next-generation sequencing
 RT-PCR - Real-time PCR
 SSO - Sequence-specific oligonucleotide probe based typing
 SSP - Sequence-specific primer-based typing
 SBT - Sequencing-based typing

Table 2. KDNA #219 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	NEG[66]	POS[66]	NEG[66]	POS[65]	NEG[65]	POS[66]	POS[66]	POS[65]	NEG[64]	NEG[65]	POS[66]	NEG[66]	POS[50]+ FULL, DEL[15]	NEG[66]	NEG[64]	POS[53]+ FULL[11]	
124	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
234	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
278	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	
713	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
733	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP NGS
762	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	FULL	SSP
792	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
1108	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
1426	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP RT-PCR
1466	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
1694	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
1778	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3224	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3410	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3632	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSP
3753	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
3798	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3966	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4021	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4251	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
4337	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4345	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	
4985	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5000	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
5133	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	RT-PCR
5142	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	DEL	SSP
5219	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
5282	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5451	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
5462	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP RT-PCR
5488	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SBT
8022	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8028	NEG	POS	NEG	NT	NEG	POS	POS	NT	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
8030	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8035	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8038	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
8047	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP NGS
8050	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8053	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO RT-PCR
8060	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8069	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	NEG	NEG	NEG	POS	SSO
8071	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO

Table 2. KDNA #219 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8073	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	RT-PCR
8074	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
8079	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	
8080	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8083	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8084	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8085	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8086	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8090	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
8092	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8094	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8098	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	
8104	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8105	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8106	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8110	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	
8113	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8114	NEG	*00301	NEG	*0010201+ *0080101	NEG	*00101+ *01502	POS	POS	NEG	NT	*00101	NEG	POS	NEG	NEG	*007+ *013	NGS
8118	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8122	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8124	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8126	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8127	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8129	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	

Table 3. KDNA #220 (Caucasian)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[65]	NEG[64]	POS[65]	POS[59]+ A,B[7]	POS[66]	POS[66]	POS[65]	POS[66]	POS[65]	POS[66]	POS[66]	POS[55]+ FULL[11]	NEG[66]	POS[64]	POS[53]+ FULL+DEL[11]	
124	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NT	NT	SSP
234	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
278	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
713	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
733	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP NGS
762	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
792	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
1108	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSO
1426	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP RT-PCR
1466	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
1694	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
1778	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
3224	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
3410	POS	POS	NEG	POS	B	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
3632	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
3753	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
3798	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
3966	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4021	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4251	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
4337	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4345	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
4985	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
5000	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
5133	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	RT-PCR
5142	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
5219	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
5282	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
5451	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
5462	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	*002-*009	POS	POS	FULL	NEG	POS	FULL, DEL	SSP RT-PCR
5488	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SBT
8022	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8028	POS	POS	NEG	NT	POS	POS	POS	NT	POS	POS	POS	POS	POS	NEG	NT	NT	SSP
8030	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8035	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8038	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSO
8047	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP NGS
8050	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8053	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO RT-PCR
8060	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8069	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8071	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8073	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	RT-PCR

Table 3. KDNA #220 (Caucasian)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8074	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSO
8079	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
8080	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8083	POS	NEG	NEG	POS	B	*001	POS	POS	POS	*002	POS	POS	POS	NEG	POS	POS	SSP
8084	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8085	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8086	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8090	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
8092	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8094	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8098	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
8104	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL, DEL	SSP
8105	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8106	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8110	POS	POS	NEG	POS	A, B	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	
8113	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8114	*0040101	*00101	NEG	*0010301+ *00501	*00501	*02001	*00102+* 112	*01402+ *036	POS	NT	*00101	*00103	POS	NEG	*00102	*0030101/ *0030102+ *004	NGS
8118	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8122	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8124	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8126	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8127	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8129	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	

Table 4. KDNA #221 (Unknown)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	NEG[66]	POS[65]	NEG[65]	POS[65]	NEG[65]	POS[66]	POS[66]	POS[65]	POS[65]	NEG[65]	POS[66]	NEG[66]	POS[52]+ FULL, DEL[14]	NEG[66]	NEG[64]	POS[53]+ FULL[11]	
124	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NT	NT	SSP
234	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
278	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	
713	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
733	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP NGS
762	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	FULL	SSP
792	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
1108	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
1426	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP RT-PCR
1466	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
1694	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
1778	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3224	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3410	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3632	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSP
3753	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
3798	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3966	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4021	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4251	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
4337	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4345	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	
4985	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5000	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
5133	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	RT-PCR
5142	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	DEL	SSP
5219	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
5282	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5451	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
5462	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP RT-PCR
5488	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SBT
8022	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8028	NEG	POS	NEG	NT	NEG	POS	POS	NT	POS	NEG	POS	NEG	POS	NEG	NT	NT	SSP
8030	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8035	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8038	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
8047	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP NGS
8050	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8053	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO RT-PCR
8060	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8069	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8071	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO

Table 4. KDNA #221 (Unknown)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8073	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	RT-PCR
8074	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	POS	SSO
8079	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	
8080	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8083	NEG	NEG	NEG	POS	NEG	*001	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8084	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8085	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8086	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8090	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
8092	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8094	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8098	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	
8104	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	FULL	SSP
8105	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8106	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8110	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	
8113	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8114	NEG	*00301	NEG	*00102+ *01101	NEG	*00101+ *00201	*01004+ *0020101 / *092	*00301+ *00402	*010+ *01301	NT	*00101	NEG	*00101+ *00301	NEG	NEG	POS	NGS
8118	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8122	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8124	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8126	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	FULL, DEL	NEG	NEG	FULL	SSP
8127	NEG	POS	NEG	POS	NEG	POS	POS	POS	POS	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8129	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	

Table 5. KDNA #222 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[66]	POS[65]	POS[65]	POS[58]+ A[8]	POS[66]	POS[66]	POS[65]	POS[66]	POS[65]	POS[66]	NEG[66]	POS[52]+ FULL[14]	POS[66]	POS[64]	POS[53]+ FULL, DEL[11]	
124	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NT	NT	SSP
234	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
278	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
713	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
733	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP NGS
762	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
792	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
1108	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSO
1426	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP RT-PCR
1466	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
1694	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
1778	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
3224	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
3410	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
3632	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSP
3753	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
3798	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
3966	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4021	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4251	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
4337	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4345	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
4985	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
5000	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
5133	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	RT-PCR
5142	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP
5219	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
5282	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
5451	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
5462	POS	POS	POS	POS	A	POS	POS	POS	POS	*002-*009	POS	NEG	FULL	POS	POS	FULL, DEL	SSP RT-PCR
5488	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SBT
8022	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP
8028	POS	POS	POS	NT	POS	POS	POS	NT	POS	POS	POS	NEG	POS	POS	NT	NT	SSP
8030	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8035	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8038	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSO
8047	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP NGS
8050	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP
8053	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO RT-PCR
8060	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8069	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8071	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO

Table 5. KDNA #222 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8073	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	RT-PCR
8074	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSO
8079	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
8080	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8083	POS	POS	POS	POS	POS	*001	POS	POS	POS	*002	POS	NEG	POS	POS	POS	POS	SSP
8084	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8085	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NGS
8086	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8090	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8094	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8098	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
8104	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	FULL, DEL	SSP
8105	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NGS
8106	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP
8110	POS	POS	POS	POS	A,B?	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	
8113	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8114	*0030205	*00301	*00101	*0010201 + *00501	*00101+ *00801	*01502	*00601+ *10701	*00301+ *00802	POS	NT	*00101	NEG	*020	*015	*00201	POS	NGS
8118	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8122	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8124	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8126	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	FULL, DEL	SSP
8127	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8129	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	

Table 6. KDNA #223 (Chinese)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	NEG[65]	POS[66]	POS[65]	POS[58]+ A[8]	POS[66]	POS[66]	POS[65]	POS[66]	POS[65]	NEG[66]	NEG[66]	POS[52]+ FULL[14]	POS[66]	POS[64]	POS[53]+ DEL[11]	
124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
234	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
278	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
713	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
733	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP NGS
762	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	DEL	SSP
792	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
1108	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
1426	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP RT-PCR
1466	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
1694	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
1778	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3224	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3410	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
3632	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSP
3753	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
3798	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
3966	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
4021	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
4251	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
4337	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
4345	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
4985	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
5000	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
5133	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	RT-PCR
5142	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	FULL	SSP
5219	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5282	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
5451	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5462	POS	NEG	POS	POS	A	POS	POS	POS	POS	*002-*009	NEG	NEG	FULL	POS	POS	DEL	SSP RT-PCR
5488	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SBT
8022	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	FULL, DEL	SSP
8028	POS	NEG	POS	NT	POS	POS	POS	NT	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
8030	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8035	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8038	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
8047	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP NGS
8050	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8053	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO RT-PCR
8060	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8069	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8071	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8073	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	RT-PCR

Table 6. KDNA #223 (Chinese)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8074	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
8079	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
8080	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8083	*001	NEG	POS	POS	POS	POS	*001	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	*003
8084	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8085	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
8086	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8090	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8094	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8098	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
8104	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	DEL	SSP
8105	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
8106	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8110	POS	NEG	POS	POS	A,B?	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	
8113	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8114	POS	NEG	*00101+ *00201	*0010201 + *00501	*00101	*01502	*00601+ *10701	*00102+ *00802	POS	NT	NEG	NEG	POS	*015+ *0020104/ *015	*00201+ *00301	*004+*006	NGS
8118	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8122	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8126	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8127	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8129	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	

Table 7. KDNA #224 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[66]	POS[66]	POS[65]	POS[58]+ A[8]	NEG[65]	POS[66]	POS[65]	POS[66]	POS[65]	POS[66]	NEG[66]	NEG[65]	POS[66]	POS[64]	POS[53]+ FULL, DEL[11]	
124	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NT	NT	SSP
234	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
278	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	
713	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
733	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP NGS
762	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
792	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
1108	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
																	SSP
1426	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	RT-PCR
1466	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
1694	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
1778	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
3224	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
3410	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
3632	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSP
3753	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP SSO
3798	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
3966	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
4021	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
4251	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
4337	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
4345	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	
4985	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
5000	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP SSO
5133	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	RT-PCR
5142	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
5219	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
5282	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
5451	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
																	SSP
5462	POS	POS	POS	POS	A	NEG	POS	POS	POS	*002-*009	POS	NEG	NEG	POS	POS	FULL, DEL	RT-PCR
5488	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP SBT
8022	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
8028	POS	POS	POS	NT	POS	NEG	POS	NT	POS	POS	POS	NEG	NEG	POS	NT	NT	SSP
8030	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8035	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8038	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8047	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP NGS
8050	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
																	SSO
8053	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR

Table 7. KDNA #224 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8060	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8069	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8071	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8073	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	RT-PCR
8074	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8079	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	
8080	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
8083	*001	*001	POS	POS	POS	NEG	POS	POS	POS	*002	POS	NEG	NEG	POS	POS	POS	SSP
8084	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
8085	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NGS
8086	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
8090	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP SSO
8092	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
8094	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8098	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	
8104	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
8105	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NGS
8106	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
8110	POS	POS	POS	POS	A,B?	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	
8113	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
8114	*00101	*00301	*00501	*00501	*00101	NEG	*00701+ *027	POS	*01301	NT	*00101+ *00104	NEG	NEG	*015	POS	POS	NGS
8118	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSO
8122	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
8124	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	SSP
8126	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	SSP
8127	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	RT-PCR
8129	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	

Table 8. Participating Centers						
Name			Institution	City	State	Country
Alquist	Caroline	Dr	Hoxworth Blood Center	Cincinnati	OH	
Ameen	Reem	Dr	Health Science Center, Kuwait University	Jabriya		Kuwait
Arnold	Paula	PhD	St Jude Children's Research Hosp	Memphis	TN	
Askar	Medhat	MD, PhD	Baylor University Medical Center	Dallas	TX	
Bangol	Barbara	Dr.	MVZ Martinsried GmbH	Martinsried		Germany
Bengtsson	Mats	MD	Uppsala University Hospital	Uppsala		Sweden
Bettinotti	Maria	PhD	Johns Hopkins University	Baltimore	MD	
Blasczyk	Rainer	Prof Dr	Transplantationsimmunologie OE 8350	Hannover		Germany
Blouin	Amanda	MD, PhD	Memorial Sloan Kettering Cancer Center	New York	NY	
Cao	Kai	Dr	UT MD Anderson Cancer Center	Houston	TX	
Carrington	Mary	Dr	Frederick Natl Lab for Cancer Research, Nat'l Cancer Institute	Frederick	MD	
Cereb	Nezih	Dr	Histogenetics	Ossining	NY	
Chan	Marieta	Dr	Health Sciences Authority			Singapore
Chang	Yenhui		Beijing BoFuRui Medical Laboratory Co. Ltd.	Beijing		China
Chang	Yenhui	Dr	TBG Biotechnology Corp.	New Taipei City		Taiwan, Province Of China
Charlton	Ronald	PhD	Cancer Care Manitoba	Winnipeg	MB	Canada
Chen	Dong Feng	PhD	Duke	Durham	NC	
Czerwinski	Pawel		Gyncentrum Fertility Clinic			Poland
Daniel	Dolly	Prof Dr	Christian Medical College & Hospital	Tamil Nadu		India
D'Orsogna	Lloyd	Dr	Path West Fiona Stanley Hospital	Murdoch		Australia
Du	Keming		Shanghai Tissuebank Medical Laboratory	Shanghai		China
Falco	Michela	PhD	Istituto Giannina Gaslini	Genoa		Italy
Fernandez-Vina	Marcelo	PhD	Stanford Blood Center	Palo Alto	CA	
Fischer	Gottfried	Dr	AKH-Blood Group Serology & Transfusion Medicine	Vienna		Austria
Freed	Brian M.	PhD, D(ABHI)	University of Colorado Denver, Anschutz Medical Campus	Aurora	CO	
Fuessel	Monika	PhD	DKMS Life Science Lab GmbH	Dresden		Germany
Furst	Daniel	PD Dr med	IKT Und Immunogenetik Ulm	Ulm		Germany
Gandhi	Manish	MD	Mayo Clinic	Rochester	MN	
Gebhart	Catherine	Dr	American Red Cross East Division	Dedham	MA	
Gendzekhadze	Keteven	PhD	City of Hope Medical Center	Duarte	CA	
Graff	Ralph J.	Dr	Saint Louis University Hospital	St Louis	MO	
He	Jun		First Affiliated Hospital of Soochow University	Suzhou, Jiangsu		China
Hedlund	Anna		Care Dx	Stockholm		Sweden
Huang	Yanping	MD, PhD	Thomas Jefferson Hospital	Philadelphia	PA	
Kanangat	Sivadasan	PhD	Rush University Medical Center	Chicago	IL	
Kashi	Zahra M.	Dr	Kashi Clinical Laboratories	Portland	OR	
Keck	Alexander		inno-train Diagnostik GmbH	Kronberg		Germany
Kim	Tai-Gyu	Prof	The Catholic University of Korea College of Med	Seoul		Korea, Republic Of
Kimball	Pam	PhD	VCU Health Systems	Richmond	VA	
Kwok	Janette	Dr	Queen Mary Hospital			Hong Kong
Lowe	Dave	Dr	Thermo Fisher Scientific	West Hills	CA	

Table 8. Participating Centers						
Name			Institution	City	State	Country
Maha	George	PhD	LabCorp	Burlington	NC	
Marsh	Steven	Prof	Anthony Nolan	London		United Kingdom
Monos	Dimitri	PhD	Children's Hospital of Philadelphia	Philadelphia	PA	
Morris	Gerald	MD, PhD	UCSD	San Diego		
Nikaein	Afzal	PhD, HCLD	Texas Medical Specialty, Inc.	Dallas	TX	
Pereira	Shalini		Scisco Genetics, Inc.	Seattle	WA	
Permpikul	Vejbaesya &	Drs	Mahidol University	Bangkok		Thailand
Philogene	Mary Carmelle	Dr	American Red Cross	Philadelphia	PA	
Pollack	Marilyn S.	PhD	UCSF Benioff Children's Hospital-Oakland	Oakland	CA	
Poulton	Kay	Dr	Transplantation Laboratory	Manchester		United Kingdom
Raja	Rajalingam	PhD	University of California, San Francisco	San Francisco	CA	
Reed	Elaine F.	PhD	UCLA Immunogenetics Center	Los Angeles	CA	
Rossi	Angela	Dr	Ospedale Guglielmo Da Saliceto	Piacenza		Italy
Ruiz	Phillip	MD, PhD	University of Miami	Miami	FL	
Sachsenberg	N.	Dr	BAG Diagnostics GmbH	Lich, Hesse		Germany
Sayer	David		CareDX PtyLtd	Fremantle		Australia
Schiller	Jennifer	PhD	Versiti-Wisconsin	Milwaukee	WI	
Schlenke	Peter	Prof Dr	LKH Univ. Klinikum Graz	Graz		Austria
Siedlar	Maciej		Children University Hospital	Cracow		Poland
Sortino	Grazia	Dr	AOU "Policlinico-Vitt. Emanuele"	Catania		Italy
Stray	Allison		Immucor GTI Diagnostics	Waukesha	WI	
Uhrberg	Markus	Dr	Universitatsklinikum Dusseldorf	Dusseldorf		Germany
Ward	William	PhD, D(ABHI)	NIH	Bethesda	MD	
Wieten	Lotte	Dr	Maastricht University Medical Center	Maastricht		Netherlands
Yu	Neng	Dr	UMMHC	Worcester	MA	
Zhang	Xiaohai	PhD	Cedars-Sinai Medical Center	Los Angeles	CA	