

REPORT OF THE 57th UCLA INTERNATIONAL KIR EXCHANGE

NOVEMBER 6, 2023

KIR 243-248

For the 57th KIR Exchange, 6 DNA samples (KDNA#243 - 248) were shipped to 64 laboratories worldwide. KIR typing results were received from 62 of the laboratories. The results for the 57th KIR Exchange are summarized in Table 1 and individual laboratory results reported for each DNA sample are provided in Tables 2 - 7.

We would like to acknowledge and thank centers 8047 and 8132 for providing allele level typing results for individual KIR genes, and encourage

other labs to do so as well. Subtyping results for KIR2DS4 and 3DP1 are denoted as FULL or DEL.

Discrepant results from consensus are italicized in tables 1 - 7. Discrepancies at the allele level are not italicized. Lastly, we would like to express our appreciation to Arnold, Azzaro, Falco, and Renac for sharing their findings and predicated haplotypes for the samples examined in this study.

KDNA # 243: KIR2DL1-2DL2-2DL4-3DL1-3DL2-3DL3-2DS2-2DS4FULL-3DP1FULL&DEL was the reported KIR genotype for this sample from an Asian donor. A number of discrepancies were observed in this sample. Two labs reported 2DL3 as positive instead of negative. One lab reported 2DL5 and 2DS5 as positive, and another lab reported 2DP1 as positive instead of negative.

Arnold and Falco each noted this sample as having an unusual haplotype, in which 2DL1 is present in the absence of 2DP1. Arnold also indicated this sample “encodes for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes:

Arnold - BA1

Azzaro - Cen-A/Cen-B2 + Tel-A/Tel-A

Renac - AB

KDNA # 244: KIR2DL1-2DL2-2DL3-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS1-2DS2-2DS4DEL-2DS5-2DP1-3DP1DEL was the reported KIR genotype for this sample from a Hispanic donor. Only a single discrepancy was reported in this sample, in which 1 lab reported 2DL4 as negative instead of positive.

Several labs commented on the unusual haplotype likely present in this sample. Arnold predicted the sample “to have an unusual haplotype where 2DS1 is positive but 3DS1 and 2DL5A are negative”. Azzaro also noted the presence of 2DS1 in the absence of 3DS1. In addition, Falco noted analysis of the centromeric and telomeric regions “revealed the presence of an A haplotype and a Delta 7 haplotype (i.e., missing the 7 KIR genes between 2DL5B and 2DS5).”

Arnold noted this sample “encodes for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes

Azzaro - Cen-A/Cen-B1 + Tel-A/Tel-B

Falco - A/B

Renac - AB

KDNA # 245: KIR2DL1-KIR2DL2-KIR2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS3-2DS4FULL&DEL-2DP1-3DP1FULL&DEL was the reported KIR genotype for this sample from a Caucasian donor. Only a single discrepancy was observed in this sample, as 1 lab reported 2DS5 as positive instead of negative.

Arnold noted this sample was “positive for 3DL1 variant allele (s) that are retained intracellularly” and encodes “for cysteine (C) at KIR2DL1 codon 245.”

Predicted haplotypes

Arnold - BA1 and BA2

Azzaro - Cen-B1/Cen-B2 + Tel-A/Tel-A

Falco - Cen-B1/Cen-B2 + Tel-A/Tel-A

Renac - AB

KDNA # 246: KIR2DL2-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS4FULL-2DS5-3DP1FULL was the reported KIR genotype for this sample from a Hispanic donor. One lab reported 3DP1 as negative instead of positive.

Predicted haplotypes

Arnold - BA1 and Bdel

Azzaro - Cen-B2/Cen-B2 + Tel-A/Tel-B1

Falco - Cen-B2/Cen-B2 + Tel-A/Tel-B1

Renac - AB

KDNA # 247: KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS3-2DS4FULL-2DP1-3DP1DEL was the reported KIR genotype for this sample from a donor of unknown ethnicity. One lab reported 2DS5 as positive instead of negative.

The only other discrepancies observed for this sample was for KIR2DS4. Fourteen labs assigned 2DS4FULL and 3 labs assigned 2DS4FULL&DEL. Gendzekhadze observed a discrepancy in test results for 2DS4 between method types, noting KIR2DS4FULL&DEL was assigned by qPCR and 2DS4FULL was assigned by SSP and SSO.

Arnold noted this sample “encodes for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes:

Arnold - A and AB

Azzaro - Cen-A/Cen-A + Tel-A/Tel-B2

Falco - Cen-A/Cen-A + Tel-A/Tel-B2

Renac - AB

KDNA # 248: KIR2DL1-2DL3-2DL4-3DL1-3DL2-3DL3-2DS4FULL&DEL-2DP1-3DP1DEL was the reported KIR genotype for this sample from an Asian donor. Two labs accounted for the discrepancies observed in this sample. One lab reported 2DL5 and 2DS5 as positive. Another lab reported 3DL2 as negative.

Arnold noted this sample “encodes for arginine (R) at KIR2DL1 codon 245.”

Predicted haplotypes

Arnold - A/A

Azzaro - Cen-A/Cen-A + Tel-A/Tel-A

Falco - A/A

Renac - A

NEXT MAILING DATE: February 7, 2024

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Table 1. Summary of the 57th KIR Exchange (KDNA #243-248)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#57	243	62	POS[61] *0030204[1]	POS[61] *0030101[1]	NEG[59] 2DL3/2DP1 Hybrid gene[1] POS[2]	POS[59] NORM[1] *0010201 *0010306[1] *00102+ *00103[1]	NEG[60] NULL[1] POS[1]	POS[61] *0020103, *0150202[1]	POS[60] *00201013 *0020102[1] *002/*101/ *102+*002/ *101/*102[1]	POS[60] *01101 *0030112[1] *003*009/ *081+*011/ *020[1]	NEG[62]	NEG[61] NT[1]	POS[60] *0010103[1] *001/*002/ *006[1]	NEG[62]	POS[44] NORM[1] FULL[16] NT[1]	NEG[61] POS[1]	NEG[58] 2DL3/ 2DP1 Hybrid gene[1] POS[1] NT[2]	POS[49] FULL,DEL[10] *0090102, *0280101 New[1] New+*001/ *00302/*004/ *00901/ *02801[1] NT[1]
	244	62	POS[60] *00301/ *00302/ *034[1], *0030212[1]	POS[60] *00301[1], *0030101[1]	POS[60] *00101[1], *0010112[1]	POS[58] DEL[1] *01101[1] *0110101[1] NEG[1]	POS[48] B[12] B*006/ B*008[1] B*0080101[1]	POS[60] *00501[1] *0050101[1]	POS[60] *001/*006/ *100/*116+ *007/*010[1], *0010302, *0070102[1]	POS[60] *00301+ *044[1] *0030105 New *0090106[1]	NEG[62]	POS[60] *00201/ New[1] NT[1]	POS[60] *00101/ *002[1] *0010108[1]	NEG[62]	POS[42] DEL[17] FULL, DEL[1] *010[1] NT[1]	POS[60] *00201[1] *0020132[1]	POS[59] *00203[1] NT[2]	POS[46] NORM[1] DEL[12] *001/*00302/ *004/ *00901[1], *0030207[1] NT[1]
	245	62	POS[60] *0040101[1] *00401/ *035[1]	POS[60] *0030101[1] *00101+ *00301[1]	NEG[62]	POS[59] *0010201 *0080204[1] *00102+ *00802[1] NORM /DEL[1]	POS[50] B[11] B*0020107[1]	POS[60] *0020103 *0040102[1] *00201+ *00401[1]	POS[61] *003013, *0020101[1]	POS[60] *0030101, *0030103 New[1] New+ *00301[1]	NEG[62]	NEG[61] NT[1]	POS[60] *00101/ *00601[1]	POS[59] *0010301, *0010313[1] Ambiguous [1] *00103/ *007[1]	POS[44] FULL, DEL[17] NT[1]	NEG[61] POS[1]	POS[59] *00102[1] NT[2]	POS[49] FULL,DEL[11] *0030101, *0090102[1] NT[1]
	246	62	NEG[61] No result[1]	POS[60] *0030105[1] NT[1]	NEG[62]	POS[60] NORM [1] *0010201, *0050101[1]	POS[51] A[8] A*0010103[1] A,B?[2]	POS[60] *01502/ *01702[1] *0150204[1]	POS[61] *0020105 *0070102[1]	POS[60] *00301+ *00402[1] *0030105, *0040201[1]	POS[60] *01301/ *107[1] *0130101[1]	POS[60] NT[1]	POS[60] *00501[1] NT[1]	POS[60] *00101/*002+ *00101/ *00601[1] *0010108[1]	NEG[62]	POS[43] FULL[16] *00101/ *01102/ *017[1] NORM[1] NT[1]	POS[60] *00201[1] *0020111[1] NT[2]	NEG[60] NT[2]

Table 1. Summary of the 57th KIR Exchange (KDNA #243-248)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#57	247	62	POS[60] *003/*034+ *003/034[1] *0030204[1]	NEG[62]	POS[61] *0010101[1]	POS[59] New/ *00102+ *00103/ *00501[1] NORM[1] *00101201, *0050101[1]	POS[51] A[8] A,B?[2] *0050101[1]	POS[61] *0150207[1]	POS[61] *0020105, *0070102[1]	POS[60] *01001+ *01502[1] *01001, *01502[1]	POS[60] *01301/ *107[1], *0130103[1]	POS[60] *00201[1] NT[1]	NEG[62]	POS[59] *00201[1] *0020101[1] Ambiguous [1]	POS[44] FULL, DEL[3] FULL[12] *00101/ *017[1] NORM[1] NT[1]	NEG[61] <i>POS[1]</i>	POS[59] *00201+ *00201[1] NT[2]	POS[47] DEL[12] *0030202[1] NORM[1] NT[1]
	248	62	POS[60] *003/*034+ *003/034[1] *0030207, *0030236[1]	NEG[62]	POS[60] *00101+ *00101[1] *0010101[1]	POS[59] NORM /DEL[1] New/*00102+ *01101/ *013[1] *0010201, *0110101[1]	NEG[61] <i>POS[1]</i>	POS[61] *0050103, *0150204[1]	POS[60] *01001, *0020105[1] <i>NEG[1]</i>	POS[60] *00901/ *081+ *01001[1] *01001, *0090105[1]	NEG[62]	NEG[61] NT[1]	NEG[62]	NEG[62]	POS[43] FULL, DEL[17] *00101/*017 +*010[1] NT[1]	NEG[61] <i>POS[1]</i>	POS[59] New+ *00201[1] NT[2]	POS[47] DEL[12] *0030202, *0030217[1] NORM[1] NT[1]

[] - number of labs reporting allele assignment/POS/NEG/NT
 POS - Presence of gene
 NEG - Absence of gene
 NT - Not typed; NR - Not reported/No result
 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 #243 (Asian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[62]	POS[62]	NEG[59]	POS[62]	NEG[60]	POS[62]	POS[62]	POS[62]	NEG[62]	NEG[61]	POS[62]	NEG[62]	POS[44]+ FULL[17]	NEG[61]	NEG[59]	POS[51] FULL, DEL[10]	
124	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
713	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
733	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP NGS
762	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSP
792	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
1108	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSO
1426	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSP SSO
1466	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
1694	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3224	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3410	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3519	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3632	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
3753	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
3798	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3966	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
4021	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4251	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
4337	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
4345	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	NEG	POS	SSB
4985	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5000	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
5133	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	RT-PCR
5142	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
5219	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
5282	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
5462	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
5488	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8022	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
8030	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8047	POS	POS	2DL3/ 2DP1 HYBRID GENE	*00102+			*002/ *101/ *102+	*003/ *009/ *081+			*001/ *002/*006	NEG	POS	NEG	2DL3/ 2DP1 HYBRID GENE	NEW +*001/ *00302/*004/ *00901/ *02801	NGS
8050	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
8053	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSO
																	RT-PCR

Table 2. KDNA #243 (Asian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8060	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8069	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSO
8071	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8073	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	RT-PCR
8079	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8080	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8083	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8084	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8085	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SBT
8086	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
8090	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
8092	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8094	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8098	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8104	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
8105	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	NGS
8106	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
8110	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	
8113	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	
8118	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8122	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8124	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
8126	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	FULL,DEL	SSP
8127	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8129	POS	POS	NEG	NORM	NEG	POS	POS	POS	NEG	NEG	POS	NEG	NORM	NEG	NEG	POS	SSP
8130	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8131	POS	POS	NEG	POS	NULL	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP SSO
8132	*0030204	*0030101	NEG	*0010201, *0010306	NEG	*0020103, *0150202	*0020101, *0020102	*01101, *0030112	NEG	NT	*0010103	NEG	NT	NEG	NT	*0090102, *0280101new	NGS
8134	POS	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL	NEG	NEG	POS	SSO

Table 3. KDNA #244 (Hispanic)																		
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method	
	POS[62]	POS[62]	POS[62]	POS[61]	POS[48]+ B[14]	POS[62]	POS[62]	POS[62]	NEG[62]	POS[61]	POS[62]	NEG[62]	POS[43]+ DEL[18]	POS[62]	POS[60]	POS[48]+ DEL[13]		
124	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NT	NT	SSP	
713	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR	
733	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP NGS	
762	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP	
792	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
1108	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	POS	SSO	
1426	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	POS	SSP SSO RT-PCR	
1466	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR	
1694	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
3224	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO	
3410	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
3519	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
3632	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR	
3753	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP SSO	
3798	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
3966	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR	
4021	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
4251	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO	
4337	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
4345	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	POS	SBT	
4985	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP RT-PCR	
5000	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR	
5133	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	RT-PCR	
5142	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP	
5219	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO	
5282	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	
5462	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP RT-PCR	
5488	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO RT-PCR	
8022	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP	
8030	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO	
8047	*00301/ *00302/ *034	*00301	*00101	*01101	B*006/ B*008	*00501	*001/*006/ *100/*116 +*007/ *010	*00301+ *044	NEG	*00201/ new	*00101/ *002	NEG	*010	*00201	*00203	*001/ *00302/ *004/ *00901	NGS	
8050	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP	
8053	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSO RT-PCR	
8060	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP	

Table 3. KDNA #244 (Hispanic)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8069	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	POS	SSO
8071	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO
8073	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	RT-PCR
8079	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO
8080	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	
8083	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO
8084	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8085	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SBT
8086	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP
8090	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8094	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO
8098	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSO
8104	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP
8105	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	NGS
8106	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP
8110	POS	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	
8113	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	
8118	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8122	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8124	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
8126	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	DEL	SSP
8127	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
8129	POS	POS	POS	DEL	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	POS	NORM	SSP
8130	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	NGS
8131	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
8132	*0030212	*0030101	*0010112	*0110101	B*0080101	*0050101	*0010302, *0070102	*0030105 new, *0090106,	NEG	NT	*0010108	NEG	NT	*0020132	NT	*0030207	NGS
8134	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	FULL,DEL	POS	POS	POS	SSO

Table 4. KDNA #245 (Caucasian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[62]	POS[62]	NEG[62]	POS[62]	POS[50]+ B[12]	POS[62]	POS[62]	POS[62]	NEG[62]	NEG[61]	POS[62]	POS[61]	POS[44]+ FULL, DEL[17]	NEG[61]	POS[60]	POS[49]+ FULL, DEL[12]	
124	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	NT	NT	SSP
713	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
733	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP NGS
762	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
792	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
1108	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	POS	SSO
1426	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	POS	SSP SSO
1466	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
1694	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3224	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
3410	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3519	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3632	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
3753	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
3798	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3966	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
4021	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
4251	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
4337	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
4345	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	POS	POS	POS	SSP
4985	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
5000	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
5133	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	RT-PCR
5142	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
5219	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
5282	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
5462	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
5488	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8022	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
8030	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8047	*00401/ *035	*00101+ *00301	NEG	*00102+ *00802	POS	*00201+ *00401	POS	NEW+ *00301	NEG	NEG	*00101/ *002+ *00101/ *00601	*00103/ *007	POS	NEG	*00102	POS	NGS
8050	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
8053	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSO
8060	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR

Table 4. KDNA #245 (Caucasian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8069	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	POS	SSO
8071	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8073	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	RT-PCR
8079	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8080	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
8083	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8084	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	Ambiguous	POS	NEG	POS	POS	RT-PCR
8085	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SBT
8086	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8090	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8092	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8094	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8098	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8104	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
8105	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	NGS
8106	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
8110	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	
8113	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
8118	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8122	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8124	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8126	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	FULL,DEL	SSP
8127	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8129	POS	POS	NEG	NORM / DELETED	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	POS	SSP
8130	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	NGS
8131	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8132	*0040101	*0010102, *0030101	NEG	*0010201, *0080204	B*0020107	*0020103, *0040102	*003013, *0020101	*0030101, *0030103 new	NEG	NT	*0010103, *0010119	*0010301, *0010313	NT	NEG	NT	*0030101, *0090102	NGS
8134	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL,DEL	NEG	POS	POS	SSO

Table 5. KDNA #246 (Hispanic)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	NEG[61]	POS[61]	NEG[62]	POS[60]	POS[53]+ A[9]	POS[62]	POS[62]	POS[62]	POS[62]	POS[61]	POS[62]	NEG[62]	POS[44]+ FULL[17]	POS[62]	NEG[60]	POS[47]+ FULL[13]	
124	NR	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NT	NT	SSP
713	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
733	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP NGS
762	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
792	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
1108	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	POS	SSO
1426	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	POS	SSP SSO RT-PCR
1466	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
1694	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
3224	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
3410	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
3519	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
3632	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
3753	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP SSO
3798	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
3966	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
4021	NEG	NT	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
4251	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
4337	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
4345	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SBT
4985	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP RT-PCR
5000	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	
5133	NEG	POS	NEG	POS	A,B?	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	RT-PCR
5142	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
5219	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
5282	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
5462	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP RT-PCR
5488	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO RT-PCR
8022	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
8030	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8047	NEG	POS	NEG	POS	POS	*01502/ *01702	POS	*00301+ *00402	*01301/ *107	*00501	*00101/ *002+ *00101/ *00601	NEG	*00101/ *01102/ *017	*00201	NEG	POS	NGS
8050	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
8053	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSO RT-PCR
8060	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	
8069	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	POS	SSO
8071	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8073	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	RT-PCR
8079	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8080	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	

Table 5. KDNA #246 (Hispanic)																		
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method	
8083	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8084	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8085	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SBT
8086	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP
8090	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP SSO
8092	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8094	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8098	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSO
8104	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
8105	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	NGS
8106	NEG	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
8110	NEG	POS	NEG	POS	A,B?	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	
8113	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	
8118	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8122	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8124	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	SSP SSO
8126	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	FULL	SSP
8127	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8129	NEG	POS	NEG	NORM	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NORM	POS	NEG	POS	SSP
8130	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	NGS
8131	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	NEG	SSP SSO
8132	NEG	*0030105	NEG	*0010201, *0050101	A*0010103	*0150204	*0020105, *0070102	*0030105, *0040201	*0130101	NT	*0010108	NEG	NT	*0020111	NT	*007	NGS	
8134	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	NEG	POS	SSO	

Table 6. KDNA #247 (Unknown)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[62]	NEG[62]	POS[62]	POS[62]	POS[54]+ A[8]	POS[62]	POS[62]	POS[62]	POS[62]	POS[61]	NEG[62]	POS[62]	POS[44]+ FULL, DEL[3]/ FULL[14]	NEG[61]	POS[60]	POS[48]+ DEL[13]	
124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	NT	NT	SSP
713	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
733	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP NGS
762	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
792	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
1108	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSO
1426	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSP SSO
1466	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
1694	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3224	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
3410	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3519	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3632	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
3753	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
3798	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3966	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
4021	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
4251	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
4337	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
4345	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	SBT
4985	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP RT-PCR
5000	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
5133	POS	NEG	POS	POS	A,B?	POS	POS	POS	POS	POS	NEG	POS	FULL,DEL	NEG	POS	DEL	RT-PCR
5142	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
5219	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
5282	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
5462	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP RT-PCR
5488	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO RT-PCR
8022	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8030	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8047	*003/ *034+ *003/ *034	NEG	POS	NEW/ *00102+ *00103/ *00501	POS	POS	POS	*01001+ *01502	*01301/ *107	*00201	NEG	*00201	*00101/ *017	NEG	*00201+ *00201	POS	NGS
8050	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8053	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	DEL	SSO RT-PCR
8060	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8069	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSO
8071	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8073	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL,DEL	NEG	POS	DEL	RT-PCR

Table 6. KDNA #247 (Unknown)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8079	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8080	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8083	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8084	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	Ambiguous	POS	NEG	POS	POS	RT-PCR
8085	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SBT
8086	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8090	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8092	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
8094	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8098	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8104	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8105	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NGS
8106	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8110	POS	NEG	POS	POS	A,B?	POS	POS	POS	POS	POS	NEG	POS	FULL,DEL	NEG	POS	DEL	
8113	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8118	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
8122	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
8124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8126	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8127	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	RT-PCR
8129	POS	NEG	POS	NORM	A	POS	POS	POS	POS	POS	NEG	POS	NORM	NEG	POS	NORM	SSP
8130	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NGS
8131	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8132	*0030204	NEG	*0010101	*00101201, *0050101	A*0050101	*0150207	*0020105, *0070102	*01001, *01502	*0130103	NT	NEG	*0020101	NT	NEG	NT	*0030202	NGS
8134	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSO

Table 7. KDNA #248 (Asian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[62]	NEG[62]	POS[62]	POS[62]	NEG[61]	POS[62]	POS[61]	POS[62]	NEG[62]	NEG[61]	NEG[62]	NEG[62]	POS[44]+ FULL, DEL[17]	NEG[61]	POS[60]	POS[48]+ DEL[13]	
124	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	NT	NT	SSP
713	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
733	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP NGS
762	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	DEL	SSP
792	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
1108	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	POS	SSO
1426	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	POS	SSP SSO RT-PCR
1466	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
1694	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
3224	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
3410	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
3519	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
3632	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
3753	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
3798	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
3966	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
4021	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
4251	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
4337	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
4345	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	POS	POS	POS	SSP
4985	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP RT-PCR
5000	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	
5133	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	RT-PCR
5142	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
5219	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
5282	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
5462	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP RT-PCR
5488	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO RT-PCR
8022	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
8030	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8047	*003/*034+ *003/*034	NEG	*00101+ *00101	New/ *00102+ *01101/ *013	NEG	POS	POS	*00901/ *081+ *01001	NEG	NEG	NEG	NEG	*00101/ *017+*010	NEG	New+ *00201	POS	NGS
8050	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
8053	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSO RT-PCR
8060	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	
8069	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	POS	SSO
8071	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8073	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	RT-PCR
8079	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO

Table 7. KDNA #248 (Asian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8080	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	
8083	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8084	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8085	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SBT
8086	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
8090	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
8092	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8094	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8098	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8104	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
8105	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	NGS
8106	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
8110	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	
8113	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	
8118	POS	NEG	POS	POS	NEG	POS	NEG	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8122	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8124	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
8126	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	DEL	SSP
8127	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8129	POS	NEG	POS	NORM / DELETED	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	NORM	SSP
8130	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	NGS
8131	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
8132	*0030207, *0030236	NEG	*0010101	*0010201, *0110101	NEG	*0050103, *0150204	*01001, *0020105	*01001, *0090105	NEG	NT	NEG	NEG	NT	NEG	NT	*0030202, *0030217	NGS
8134	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	FULL,DEL	NEG	POS	POS	SSO

Table 8. Participating Centers

Director Last Name	Director First	Honor	Institution	Lab	Country
Alquist	Caroline	Dr	Hoxworth Blood Center	Transplantation Immunology Division	
Ameen	Reem	Dr	Health Science Center, Kuwait University	Transplant Biology & Immunogenetics Laboratory	Kuwait
Arnold	Paula	PhD	St Jude Children's Research Hosp	Pathology-HLA	
Azzaro	Maria	Dr.ssa	AOU "Policlinico-Vitt. Emanuele"	U.O.S. Laboratorio di Tipizzazione Tissutale	Italy
Baj-Krzyworzeka	Monika		University Children's Hospital	Tissue Typing laboratory	Poland
Bengtsson	Mats	MD	Uppsala University Hospital	Rudbecklaboratoriet C11 1tr Dept of Clinical Immunology	Sweden
Berka	Noureddine	Dr	American Red Cross	Histocompatibility Laboratory Services	
Bettinotti	Maria	PhD	Johns Hopkins University	Immunogenetics Laboratory	
Blasczyk	Rainer	Prof Dr	Transplantationsimmunologie OE 8350	Institut fur Transfusionsmedizin und Transplantat Engineering	Germany
Blouin	Amanda	MD, PhD	Memorial Sloan Kettering Cancer Center	Histocompatibility Laboratory	
Cereb	Nezih	MD	HistoGenetics		
Chan	Marieta	Dr	Health Sciences Authority	HLA Lab, Blood Services Group	Singapore
Chang	Yenhui	Dr	TBG Biotechnology Corp.	Molecular Typing Laboratory	Taiwan, Province Of China
Chen	Dongfeng	PhD	Duke University Health System	Clinical Transplantation Immunology Lab (CTIL)	
Chung	Yeun-Jun	Prof	The Catholic University of Korea College of Med	Catholic Hematopoietic Stem Cell Bank	Republic of Korea
Czerwinski	Pawel		Gyncentrum Sp. zo.o	Medical Laboratory Gyncentrum	Poland
Dambaera	Svetlana		Rosalind Franklin University	Clinical Immunology Laboratory	
Daniel	Dolly	Prof Dr	Christian Medical College & Hospital	Dept of Transfusion Medicine & Immunohematology (HLA Lab)	India
D'Orsogna	Lloyd	Dr	Fiona Stanley Hospital	Department of Clinical Immunology	Australia
Du	Keming		Shanghai Tissuebank Medical Laboratory		China
Falco	Michela	PhD	IRCCS Istituto Giannina Gaslini	Immunologia Clinica e Sperimentale	Italy
Fernandez-Vina	Marcelo	PhD	Stanford Blood Center	HLA-Histocompatibility & Immunogenetics Lab	
Fischer	Gottfried	Dr	AKH-Blood Group Serology & Transfusion Medicine	HLA-DNA Laboratory	Austria
Fuessel	Monika	PhD	DKMS Life Science Lab gGmbH		Germany
Furst	Daniel	PD Dr med	IKT Und Immungenetik Ulm	Transplantationsimmunologie	Germany
Gandhi	Manish J.	MD	Mayo Clinic	Tissue Typing Laboratory	
Gendzekhadze	Ketevan	PhD	City of Hope Medical Center	HLA Laboratory	
Grabowska	Marcelina	PhD	University Clinical Center of the Medical University of Warsaw	Laboratory of Immunogenetics	Poland
Guan	Qingdong	F(ACHI)	Cancer Care Manitoba	HLA Laboratory, Room MS 739-C	Canada
Hedlund	Anna		CareDx AB		Sweden

Table 8. Participating Centers

Director Last Name	Director First	Honor	Institution	Lab	Country
Hirv	Kaimo		MVZ Martinsried GmbH	Immunogenetics	Germany
Huang	Yanping	MD, PhD	Thomas Jefferson University Hospital	Histocompatibility & Immunogenetics Laboratory	
Kashi	Zahra	Dr	Kashi Clinical Laboratories	HLA	
Keck	Dr Rainer &	Drs	inno-train Diagnostik GmbH		Germany
Koester	Ruth	PhD	LabCorp	DNA Identification Testing Facility	
Kwok	Janette	Dr	Queen Mary Hospital	Transplantation & Immunogenetics	Hong Kong
Marsh	Steven GE	Prof	Anthony Nolan Research Institute		United Kingdom
Monos	Dimitri	PhD	Children's Hospital of Philadelphia	Immunogenetics Laboratory	
Morris	Gerald	MD, PhD	UCSD	Immunogenetics & Transplant Lab (ITL)	
Mulder	Wietse		Genome Diagnostics B.V. (GenDx)	R & D	Netherlands
Nikaein	Afzal	PhD, HCLD	Texas Medical Specialty, Inc.		
Pando	Marcelo	PhD	SSM Health SLUCare	HLA Laboratory	
Pando	Marcelo	PhD	Baylor University	Transplant and Genomics Core	
Pereira	Shalini		Scisco Genetics, Inc.		
Permpikul	Vejbaesya &		Mahidol University	HLA Laboratory	Thailand
Philogene	Mary Carmelle	PhD, F(ACHI)	VCU Health Systems	Histocompatibility & Immunogenetics Laboratory	
Pollack	Marilyn S.	PhD	UCSF Benioff Children's Hospital-Oakland	HLA/Immunogenetics Lab	
Poulton	Kay	Dr	Manchester Royal Infirmary	Transplantation Laboratory	United Kingdom
Raja	Rajalingam	PhD	University of California San Francisco	Immunogenetics and Transplantation Laboratory	
Reed	Elaine F.	PhD	UCLA Immunogenetics Center		
Renac	Virginie	MD	Etablissement Francais du Sang Bretagne	Histocompatibilite et Immunogenetique	France
Rossi	Angela	Dr	Ospedale Guglielmo Da Saliceto	Laboratorio Immunogenetica-HLA	Italy
Sachsenberg	Nicolas	Dr	BAG Diagnostics GmbH	Quality Control IvD	Germany
Schiller	Jennifer	PhD	Versiti Wisconsin, Inc.	Histocompatibility	
Schlenke	Peter	Prof Dr	LKH Univ. Klinikum Graz	HLA Labor	Austria
Stroncek	David	MD	National Institutes of Health	HLA Laboratory	
Tan	Aiguo		Beijing BoFuRui Medical Laboratory Co. Ltd.		China
Thiel	Jennifer		Immucor	Quality Control	
Uhrberg	Markus	Dr	Universitätsklinikum Dusseldorf	ITZ	Germany
Yenhui	Chang		Guangzhou BoFuRui Medical Laboratory, Co. Ltd.		China
Yu	Neng	MD	American Red Cross	HLA Services	
Yu	Neng	Dr	UMass Memorial Health	HLA Laboratory	
Zhang	Xiaohai	PhD	Cedars-Sinai Medical Center	HLA Lab, SSB Bldg, Room 197	