

REPORT OF THE 51st UCLA INTERNATIONAL KIR EXCHANGE

NOVEMBER 16, 2020

KIR 207-212

For the 51st KIR Exchange, 6 DNA samples (KDNA#207 - 212) were shipped to 69 laboratories worldwide. KIR typing results were received from 66 of the laboratories.

The results for the 51st 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 2DL5A/B, 3DL1, 2DS1, 2DS4, and 3DP1 loci were reported by some laboratories. The subtypes for 2DS4 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.

KDNA # 207: KIR2DL1-2DL2-2DL3?-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS4FULL&DEL-2DS5-2DP1-3DP1FULL&DEL was the reported KIR type for this sample from a Black donor. No agreement was achieved for KIR2DL3 in this sample, as 35 labs reported it as negative and 29 labs reported it as positive. Interestingly, a number of labs testing the sample by different method types observed discrepancies between the different methods. One lab found 2DS3 to be negative by SSP and positive by RT-PCR. Another lab reported 2DS3 was positive by SSP and negative by SSO. As no consensus was achieved for 2DL3, it was excluded from the grading analysis.

KDNA # 208: KIR2DL1-2DL2-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS3-2DS4FULL-2DP1-3DP1FULL&DEL was the consensus KIR type for this sample from an Asian donor. One lab reported 2DL2 as negative and another reported 2DL5 as negative instead of positive. One lab accounted for the remaining discrepancies observed. Arnold noted this sample "encodes arginine (R) at KIR2DL1 codon 245".

Predicted haplotypes:

Falco: Cen-A/Cen-B2 + Tel-A/Tel-B2, noting "Tel-B2 has been assigned based on KIR2DS3 presence, Cisneros Frontiers in Immunology 2020"

Rombola: Cen-A/Cen-B + TEL-A/TEL-B

Sortino: Cen-A/Cen-B2 + Tel-A/Tel-B

KDNA # 209: KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS3?-2DS4FULL-2DS5-2DP1-3DP1DEL was the reported KIR type for this sample from a Hispanic donor. For KIR2DS3, 54 labs reported it as negative, while 10 reported it as positive. As with sample 207, discrepant results were observed once again between different method types. One lab testing by SSP and RT-PCR, found the gene to be negative by SSP and positive by RT-PCR. Another lab testing by SSO and SSP, found 2DS3 to be negative by SSO and positive by SSP. As consensus for this gene was < 90%, it was not included in the grading analysis.

KDNA # 210: KIR2DL1-2DL2-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS3-2DS4FULL&DEL-2DP1-3DP1DEL was the consensus KIR type for this sample from a Black donor. One lab reported this sample as negative for 2DL2 and 2DL4. Two others reported 3DS1 as positive instead of negative. Arnold predicted this sample "to have two "BA2" haplotypes and is positive for the 3DL1 variant alleles that are retained intracellularly."

Predicted haplotypes:

Falco: Cen-B1/Cen-B1 + Tel-A/Tel-A, noting "presence of one Cen-B2 region has been excluded based on analysis of KIR3DP1 polymorphism, i.e. absence of KIR3DP1 full allele."

Rombola: Cen-B2/Cen-B2 + Tel-A/TEL-A

Sortino: Cen-B1/Cen-B1 + Tel-A/Tel-A

KDNA # 211: KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4FULL-2DS5-2DP1-3DP1DEL was the consensus KIR type for this sample from a Caucasian donor. A number of discrepancies were observed in this sample as 1 lab reported 2DL3 as negative and 2DS2 as positive. One lab reported 2DL5 as negative and 2 others reported 3DS1 as negative instead of positive. Arnold predicted this sample to have "A" and "AB" haplotypes and encode arginine (R) at KIR2DL1 codon 245.

Predicted haplotypes:

Falco: Cen-A/Cen-A + Tel-A/Tel-B1; noting "Tel-B1 has been assigned based on KIR2DS5 presence, Cisneros Frontiers in Immunology 2020."

Rombola: Cen-A/Cen-A + Tel-A/Tel-B.

Sortino: Cen-A/Cen-A + Tel-A/Tel-B.

KDNA # 212: KIR2DL1-2DL3-2DL4-3DL1-3DL2-3DL3-2DS4DEL-2DP1-3DP1DEL was the consensus KIR type for this sample from a donor of unknown ethnicity. One lab reported 2DL3 as negative and 2DS2 as positive. Two other labs reported 2DL5 as positive instead of negative. Arnold predicted this sample to have 2 A" haplotypes and encode arginine (R) at KIR2DL1 codon 245.

Predicted haplotypes:

Falco: Cen-A/Cen-A + Tel-A/Tel-A

Rombola: Cen-A/Cen-A + Tel-A/Tel-A

Sortino: Cen-A/Cen-A + Tel-A/Tel-A

NEXT MAILING DATE: February 3, 2021

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Table 1. Summary of the 51st KIR Exchange (KDNA #207-212)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#51	207	66	POS[66]	POS[65] NEG[1]	NEG[35] POS[28] *010/ 018[1] NT[2]	POS[65] NT[1]	POS[51] (B)[15]	POS[65] *001[1]	POS[66] NT[1]	POS[65] NEG[65] POS[1]	NEG[66]	POS[66]	NEG[66]	POS[49] FULL, DEL[17]	POS[66]	POS[64] NT[2]	POS[49] FULL, DEL[14] NT[3]	
	208	66	POS[66]	POS[65] NEG[1]	POS[66]	POS[65] NT[1]	POS[53] A[12] NEG[1]	POS[65] *001[1]	POS[66] NT[1]	POS[65] POS[65] NEG[1]	POS[63] *002[1] *002-*009[1] NEG[1]	POS[66]	NEG[66]	POS[46] FULL[19] *001[1]	NEG[65] POS[1]	POS[64] NT[2]	POS[50] FULL, DEL[13] NT[3]	
	209	66	POS[66]	NEG[66]	POS[66]	POS[65] NT[1]	POS[53] A[12] NEG[1]	POS[65] *001[1]	POS[66] NT[1]	POS[65] POS[66]	POS[64] *002[1] *002-*009[1]	POS[65] NEG[1]	NEG[54] POS[10] NT[2]	POS[44] FULL[20] *001[2]	POS[65] NEG[1]	POS[64] NT[2]	POS[47] DEL[14] FULL[1] *003[1] NT[3]	
	210	66	POS[66]	POS[65] NEG[1]	NEG[64] POS[2]	POS[64] NEG[1] NT[1]	POS[52] B[14]	POS[66]	POS[66] NT[1]	POS[65] NEG[64] POS[2]	NEG[65] NT[1]	POS[66]	POS[66]	POS[50] FULL, DEL[16]	NEG[66]	POS[64] NT[2]	POS[48] DEL[13] *003[1] FULL[1] NT[3]	
	211	66	POS[65] NT[1]	NEG[65] NT[1]	POS[64] NT[1] NEG[1]	POS[64] NT[2]	POS[51] A[13] NEG[1] NT[1]	POS[64] *001[1] NT[1]	POS[65] NT[1]	POS[64] NT[2] NEG[2]	POS[63] *002[1] *002-*009[1] NT[1]	NEG[64] NT[1] POS[1]	NEG[65] NT[1]	POS[44] FULL[19] *001[2] NT[1]	POS[65] NT[1]	POS[63] NT[3]	POS[47] DEL[13] *003[1] FULL[1] NT[4]	
	212	66	POS[65] *001[1]	NEG[65] NT[1]	POS[65] NEG[1]	POS[65] NT[1]	NEG[64] POS[2]	POS[65] *001[1]	POS[66] NT[1]	NEG[66]	NEG[66]	NEG[65] POS[1]	NEG[66]	POS[44] DEL[20] *003[1] *003/*004/ *006/*007[1]	NEG[66]	POS[64] NT[2]	POS[48] DEL[13] FULL[1] *003[1] NT[3]	

[] - 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 #207 (Black)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[65]	NEG[35] POS[29]	POS[65]	POS[51]+ (B)[15]	POS[66]	POS[66]	POS[65]	NEG[65]	NEG[66]	POS[66]	NEG[66]	POS[49] FULL, DEL[17]	POS[66]	POS[64]	POS[49] FULL, DEL[14]	
124	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	NT	NT	SSP
234	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
278	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
713	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO RT-PCR
733	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP NGS
762	POS	POS	*010/*018	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
792	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
1108	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	POS	SSO
1426	POS	POS	NT	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP RT-PCR
1466	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
1694	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
1778	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
3224	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3410	POS	POS	NT	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
3632	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
3753	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
3798	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
3966	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
4021	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
4251	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
4337	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
4345	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
4985	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
5000	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
5133	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	RT-PCR
5142	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
5219	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NEG	POS	POS	POS	POS	SSO
5282	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
5451	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
5462	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP RT-PCR
5488	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8022	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
8023	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
8025	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	NT	SSP
8028	POS	POS	NEG	NT	POS	POS	POS	NT	NEG	NEG	POS	NEG	POS	POS	NT	NT	SSP
8030	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SBT
8035	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8038	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	POS	SBT
8047	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	NGS
8050	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	

Table 2. KDNA #207 (Black)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[65]	NEG[35] POS[29]	POS[65]	POS[51]+ (B)[15]	POS[66]	POS[66]	POS[65]	NEG[65]	NEG[66]	POS[66]	NEG[66]	POS[49] FULL, DEL[17]	POS[66]	POS[64]	POS[49] FULL, DEL[14]	
8053	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8060	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8069	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
8071	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8073	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	RT-PCR
8074	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	POS	SSO
8079	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8080	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8083	POS	POS	NEG	POS	B	*001	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	*001-*003	SSP
8084	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8085	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	NGS
8086	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8088	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8090	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO RT-PCR
8097	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8098	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
8101	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8102	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8104	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
8105	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	NGS
8106	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	SSP
8110	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	POS	POS	FULL, DEL	
8113	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8118	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8120	POS	NEG	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR

Table 3. KDNA #208 (Asian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[65]	POS[66]	POS[65]	POS[53]+ A[12]	POS[66]	POS[66]	POS[65]	POS[65]	POS[65]	POS[66]	POS[65]	POS[46]+ FULL[20]	NEG[65]	POS[64]	POS[50] FULL, DEL[13]	
124	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NT	NT	SSP
234	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
278	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
713	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO RT-PCR
733	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP NGS
762	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSP
792	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
1108	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
1426	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP RT-PCR
1466	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
1694	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
1778	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
3224	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
3410	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSP
3632	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
3753	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
3798	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
3966	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4021	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4251	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
4337	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4345	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
4985	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
5000	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP SSO
5133	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	RT-PCR
5142	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	*001	NEG	POS	FULL, DEL	SSP
5219	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
5282	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
5451	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
5462	POS	POS	POS	POS	A	POS	POS	POS	POS	*002-*009	POS	POS	FULL	NEG	POS	FULL, DEL	SSP RT-PCR
5488	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSP SSO
8022	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8023	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8025	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	NT	SSP
8028	POS	POS	POS	NT	POS	POS	POS	NT	POS	POS	POS	POS	POS	NEG	NT	NT	SSP
8030	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SBT
8035	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8038	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SBT
8047	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8050	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	
8053	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8060	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO

Table 3. KDNA #208 (Asian)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	POS[65]	POS[66]	POS[65]	POS[53]+ A[12]	POS[66]	POS[66]	POS[65]	POS[65]	POS[65]	POS[66]	POS[65]	POS[46]+ FULL[20]	NEG[65]	POS[64]	POS[50] FULL, DEL[13]	
8069	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8071	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8073	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	RT-PCR
8074	POS	POS	POS	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	SSO
8080	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8083	POS	POS	POS	POS	NEG	*001	POS	POS	POS	002	POS	POS	POS	NEG	POS	POS	SSP
8084	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8085	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8086	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8088	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8090	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO SSO
8092	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO RT-PCR
8097	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
													ALL EX.4 FULL LENGTH EX.5				
8098	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	
8101	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8102	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8104	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8105	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8106	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	SSP
8110	POS	POS	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL, DEL	
8113	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8118	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8120	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR

Table 4. KDNA #209 (Hispanic)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	NEG[66]	POS[66]	POS[65]	POS[53]+ A[12]	POS[66]	POS[66]	POS[65]	POS[66]	POS[66]	POS[65]	NEG[54] POS[10]	POS[44]+ FULL[21]	POS[65]	POS[64]	POS[48]+ DEL[15]	
124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NT	NT	SSP
234	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSP
278	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
713	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NT	POS	POS	POS	POS	SSO RT-PCR
733	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP NGS
762	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
792	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
1108	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSO
1426	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NT	FULL	POS	POS	DEL	SSP RT-PCR
1466	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR
1694	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
1778	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
3224	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
3410	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSP
3632	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
3753	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
3798	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
3966	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4021	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4251	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSP SSO
4337	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4345	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
4985	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
5000	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
5133	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	POS	POS	DEL	RT-PCR
5142	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	*001	POS	POS	FULL	SSP
5219	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
5282	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
5451	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
5462	POS	NEG	POS	POS	A	POS	POS	POS	POS	*002-*009	POS	NEG	FULL	POS	POS	DEL	SSP RT-PCR
5488	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP SSO
8022	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
8023	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
8025	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	NT	SSP
8028	POS	NEG	POS	NT	POS	POS	POS	NT	POS	POS	POS	NEG	POS	POS	NT	NT	SSP
8030	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SBT
8035	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8038	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SBT
8047	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NGS
8050	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	
8053	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8060	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8069	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP

Table 4. KDNA #209 (Hispanic)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	NEG[66]	POS[66]	POS[65]	POS[53]+ A[12]	POS[66]	POS[66]	POS[65]	POS[66]	POS[66]	POS[65]	NEG[54] POS[10]	POS[44]+ FULL[21]	POS[65]	POS[64]	POS[48]+ DEL[15]	
8071	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8073	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	POS	POS	DEL	RT-PCR
8074	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	POS	SSO
8079	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8080	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	RT-PCR
8083	POS	NEG	POS	POS	NEG	*001	POS	POS	POS	*002	POS	NEG	*001	POS	POS	*003	SSP
8084	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	RT-PCR
8085	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NGS
8086	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSP
8088	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8090	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO RT-PCR
8097	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
													ALL EX.4 FULL LENGTH EX.5				
8098	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	
8101	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8102	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	RT-PCR
8104	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
8105	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NGS
8106	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	NEG	FULL	POS	POS	DEL	SSP
8110	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	POS	POS	FULL	POS	POS	DEL	
8113	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8118	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSO
8120	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR

Table 5. KDNA #210 (Black)

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[64]	POS[52]+ B[14]	POS[66]	POS[66]	POS[65]	NEG[64]	NEG[65]	POS[66]	POS[66]	POS[50]+ FULL, DEL[16]	NEG[66]	POS[64]	POS[49] DEL[14]	
124	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NT	POS	POS	POS	NEG	NT	NT	SSP
234	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
278	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
713	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO 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	DEL	SSP
792	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
1108	POS	POS	POS	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	DEL	SSP RT-PCR
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
1778	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
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
3632	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	SSP
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	SSP
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	SSP 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	POS	NEG	POS	POS	POS	NEG	POS	POS	SSP
4985	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
5000	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
5133	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	RT-PCR
5142	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL	SSP
5219	POS	POS	NEG	POS	POS	POS	POS	POS	POS	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
5451	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
5462	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	SSP RT-PCR
5488	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	DEL	SSP SSO
8022	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	SSP
8023	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	SSP
8025	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	NT	SSP
8028	POS	POS	NEG	NT	POS	POS	POS	NT	NEG	NEG	POS	POS	POS	NEG	NT	NT	SSP
8030	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SBT
8035	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8038	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SBT
8047	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	NGS
8050	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	
8053	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8060	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO

Table 5. KDNA #210 (Black)																	
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[64]	POS[52]+ B[14]	POS[66]	POS[66]	POS[65]	NEG[64]	NEG[65]	POS[66]	POS[66]	POS[50]+ FULL, DEL[16]	NEG[66]	POS[64]	POS[49] DEL[14]	
124	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NT	POS	POS	POS	NEG	NT	NT	SSP
8069	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	SSP
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	DEL	RT-PCR
8074	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSO
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	RT-PCR
8083	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	*003	SSP
8084	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8085	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	NGS
8086	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8088	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	SSO RT-PCR
8097	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8098	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
8101	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8102	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR
8104	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	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	DEL	SSP
8110	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	DEL	
8113	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8118	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8120	POS	NEG	NEG	NEG	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	RT-PCR

Table 6. KDNA #211 (Caucasian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[65]	NEG[65]	POS[64]	POS[64]	POS[51]+ A[13]	POS[65]	POS[65]	POS[64]	POS[63]	POS[65]	NEG[64]	NEG[65]	POS[44]+ FULL[21]	POS[65]	POS[63]	POS[48] DEL[14]	
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	SSO
713	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO 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	FULL	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	SSP 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	FULL	POS	POS	POS	SSP
3632	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	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	SSP 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	SSP
4985	POS	NEG	POS	POS	NEG	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	*001	POS	POS	FULL	SSP
5219	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	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	
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	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP SSO
8022	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8023	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8025	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	NT	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	NEG	POS	NEG	NEG	POS	POS	POS	POS	SBT
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	SBT
8047	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
8050	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	
8053	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8060	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8069	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP

Table 6. KDNA #211 (Caucasian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[65]	NEG[65]	POS[64]	POS[64]	POS[51]+ A[13]	POS[65]	POS[65]	POS[64]	POS[63]	POS[65]	NEG[64]	NEG[65]	POS[44]+ FULL[21]	POS[65]	POS[63]	POS[48] DEL[14]	
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
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	SSO
8080	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8083	POS	NEG	POS	POS	A	*001	POS	POS	POS	*002	NEG	NEG	*001	POS	POS	*003	SSP
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
8088	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	NEG	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	SSO RT-PCR
8097	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
													ALL EX.4 FULL LENGTH				
8098	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	EX.5	POS	POS	POS	
8101	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8102	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8104	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	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	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
8118	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8120	POS	NEG	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	RT-PCR

Table 7. KDNA #212 (Unknown)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	NEG[65]	POS[65]	POS[65]	NEG[64]	POS[66]	POS[66]	POS[65]	NEG[66]	NEG[66]	NEG[65]	NEG[66]	POS[44]+ DEL[22]	NEG[66]	POS[64]	POS[49]+ DEL[14]	
124	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	NT	NT	SSP
234	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
278	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
713	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO 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	DEL	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	DEL	NEG	POS	POS	SSO
1426	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP 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
1778	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
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	DEL	NEG	POS	POS	SSP
3632	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP
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	SSP
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	SSP SSO
4337	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
4345	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
4985	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
5000	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP SSO
5133	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	RT-PCR
5142	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	*003/ *004/ *006/ *007	NEG	POS	FULL	SSP
5219	POS	NEG	POS	POS	POS	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
5451	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	
5462	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP RT-PCR
5488	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP SSO
8022	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP
8023	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP
8025	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	NT	SSP
8028	POS	NEG	POS	NT	NEG	POS	POS	NT	NEG	NEG	NEG	NEG	POS	NEG	NT	NT	SSP
8030	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SBT
8035	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8038	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	POS	SBT
8047	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	NGS
8050	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	
8053	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8060	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO

Table 7. KDNA #212 (Unknown)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[66]	NEG[65]	POS[65]	POS[65]	NEG[64]	POS[66]	POS[66]	POS[65]	NEG[66]	NEG[66]	NEG[65]	NEG[66]	POS[44]+ DEL[22]	NEG[66]	POS[64]	POS[49]+ DEL[14]	
8069	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	SSP
8071	POS	NEG	POS	POS	POS	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	DEL	NEG	POS	DEL	RT-PCR
8074	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	POS	SSO
8079	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8080	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8083	001	NEG	POS	POS	NEG	*001	POS	POS	NEG	NEG	NEG	NEG	*003	NEG	POS	*003	SSP
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	NGS
8086	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
8088	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	SSO RT-PCR
8097	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
8098	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	ALL EX.4 DELETION EX.5		NEG	POS	POS
8101	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
8102	POS	NT	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	RT-PCR
8104	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	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	DEL	NEG	POS	DEL	SSP
8110	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	DEL	NEG	POS	DEL	
8113	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSP
8118	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	NEG	NEG	NEG	POS	NEG	POS	POS	SSO
8120	POS	NEG	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	RT-PCR

Table 8. Participating Centers						
Name			Institution	City	State	Country
Ameen	Reem	Dr	Health Science Center, Kuwait Univesity	Jabriya		Kuwait
Arnold	Paula	PhD	St Jude Children's Research Hosp	Memphis	TN	
Askar	Medhat	Dr	Baylor Scott & White Health Service	Dallas	TX	
Bangol	Barbara	Dr	MVZ Martinsried GmbH	Martinsried		Germany
Barber	Kathryn		Immucor	Waukesha	WI	
Bengtsson	Mats	MD	Uppsala University Hospital	Uppsala		Sweden
Bettinotti	Maria	PhD	Johns Hopkins University	Baltimore	MD	
Blasczyk	Rainer	Prof	Medizinische Hochschule Hannover	Hannover		Germany
Boruowsua	Edyta	PhD	Salve Medica	Lodz		Poland
Cao	Kai	Dr	UT-MD Anderson Cancer Center	Houston	TX	
Carrington	Martin &	Drs	NCI-FREDERICK	Frederick	MD	
Cereb	Nezih	Dr	Histogenetics	Ossining	NY	
Chan	Marieta	Dr	Health Sciences Authority			Singapore
Chang	Yenhui		Beijing BoFuRui Gene Diagnostics, LTD	Beijing		China
Charlton	Ronald	PhD	Cancer Care Manitoba	Winnipeg	MB	Canada
Chen	Dong-Feng	PhD	Duke University Medical Center	Durham	NC	
Colombe	Beth W.	PhD	Thomas Jefferson Univ Hospital	Philadelphia	PA	
Daniel	Dolly	Prof Dr	Christian Medical College Hospital	Tamil Nadu		India
D'Orsogna	Lloyd	Dr	Fiona Stanley Hospital	Murdoch		Australia
Du	Keming		Shanghai Tissuebank Medical Laboratory	Shanghai		China
Falco	Michela	PhD	Istituto Giannina Gaslini	Genoa,		Italy
Fernandez-Vina	Marcelo	Dr	Stanford Histocompatibility Lab	Palo Alto	CA	
Fischer	Gottfried	Dr	Dept Blood Group Serology and transfusion Med-	Vienna		Austria
Freed	Brian M.	PhD	University Colorado Denver, Anschultz Medical Center	Aurora	CO	
Fuessel	Monika	PhD	DKMS Life Science Lab GmbH	Dresden		Germany
Gandhi	Manish	MD	Mayo Clinic	Rochester	MN	
Gebhart	Catherine	Dr	American Red Cross East Division	Dedham	MA	
Gendzekhadze	Keteven		City of Hope Medical Center	Duarte	CA	
Graff	Ralph J.	Dr	Saint Louis University Hospital	St Louis	MO	
He	Jun		Histocompatibility & Molecular Genetics Laboratory	Suzhou, Jiangsu		China
Hedlund	Anna		Care Dx	Stockholm		Sweden
Hesse	Nicole		BAG Diagnostics GmbH	Lich		Germany
Kanangat	Siva	PhD	Rush University Medical Center	Chicago	IL	
Kashi	Zahra M.	Dr	Kashi Clinical Laboratories	Portland	OR	
Kim	Tai-Gyu	Prof	The Catholic University of Korea College of Med	Seoul		Korea, Republic Of
Kimball	Pam	Dr	VCU Health Systems	Richmond	VA	
Kwok	Janette	Dr	Queen Mary Hospital			Hong Kong
Liu	Cong	PhD	Spectrum Health	Grand Rapids	MI	
Maha	George	PhD	Laboratory Corporation of America	Burlington	NC	

Table 8. Participating Centers						
Name			Institution	City	State	Country
Marsh	Steven	Prof	Anthony Nolan	London		United Kingdom
Meunier	Marie-Christine	PhD	Hopital Maisonneuve-Rosemont	Montreal	Quebec	Canada
Monos	Dimitrios	PhD	Children's Hospital of Philadelphia	Philadelphia	PA	
Morris	Gerald	MD, PhD	UC San Diego Health	San Diego	CA	
Mytilineos	Joannis	MD	IKT ULM/MVZ ULM	Ulm		Germany
Nikaein	Afzal	PhD, HCLD	Texas Medical Specialty, Inc.	Dallas	TX	
Peng	Zhang		Nan Jing Practice Medicine Diagnostics Co., Ltd	Nanjing City	Jiangsu Province	China
Pereira	Shalini		Scisco Genetics, Inc.	Seattle	WA	
Permpikul	Vejbaesya &	Drs	Siriraj Hospital	Bangkok		Thailand
Philogene	Mary Carmelle	Dr	American Red Cross,Penn-Jersey Blood Serv Regn	Philadelphia	PA	
Pollack	Marilyn S.	PhD	UCSF Benioff Children's Hospital-Oakland	Oakland	CA	
Poulton	Kay	Dr	Manchester Royal Infirmary	Manchester		United Kingdom
Raja	Rajalingam	PhD	UCSF	San Francisco	CA	
Reed	Elaine F.	PhD	UCLA Immunogenetics Center	Los Angeles	CA	
Rombola	Giovanni	Dr	Az. Osp. Univ. Careggi	Firenze		Italy
Rossi	Angela	Dr	Ospedale Guglielmo Da Saliceto	Piacenza		Italy
Ruiz	Phillip	MD, PhD	University of Miami	Miami	FL	
Sayer	David		CareDX PtyLtd	Fremantle		Australia
Schiller	Jennifer	PhD	Versiti Wisconsin, Inc.	Milwaukee	WI	
Schlenke	Peter	Univ Prof	LKH Univ. Klinikum Graz	Graz		Austria
Seidl	Christian	Prof Dr	DRK Blutspendedienst Baden-Wurtemberg	Frankfurt am Main		Germany
Sortino	Grazia	Dr	AOU "Policlinico-Vitt. Emanuele"	Catania		Italy
Uhrberg	Markus	Dr	Universitätsklinikum Dusseldorf	Dusseldorf		Germany
Vander Horn	Peter	Dr	One Lambda Inc.	West Hills	CA	
Vilches	Carlos	Dr	Hospital Univ Puerta de Hierro	Majadahonda		Spain
Wald	David		Univ of Cincinnati Acad Health Ctr	Cincinnati	OH	
Ward	William W.	Ph.D.	National Institute of Health	Bethesda	MD	
Wieten	Lotte	Dr	Maastricht University Medical Center	Maastricht		Netherlands
Yu	Neng	Dr	UMass Memorial Medical Center Inc.	Worcester	MA	
Zhang	Xiaohai	PhD	Cedars-Sinai Medical Center	Los Angeles	CA	