

REPORT OF THE 58th UCLA INTERNATIONAL KIR EXCHANGE

MAY 8, 2024

KIR 249-254

For the 58th KIR Exchange, 6 DNA samples (KDNA#249 - 254) were shipped to 58 laboratories worldwide. KIR typing results were received from 57 of the laboratories. The results for the 58th 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 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.

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. We would also like to express our appreciation to Arnold, Azzaro, and Renac for sharing their predicated haplotypes for the samples examined in this study.

KDNA # 249: KIR2DL2-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS1-2SD2-2DS4DEL-2DS5-3DP1FULL was the reported KIR genotype for this sample from a Caucasian donor. Only 2 discrepancies were observed for this sample in which 1 lab reported 2DL3 as positive and 1 lab reported 2DL4 as negative instead of positive.

Predicted haplotypes:

Renac - AB

KDNA # 250: KIR2DL1-2DL3-2DL4-2DL5A-3DL2-3DL3-3DS1-2DS1-2DS5-2DP1-3DP1DEL was the reported KIR genotype for this sample from a Hispanic donor. Several discrepancies were reported for this sample. One lab reported 2DL1 as negative, 1 lab reported 2DL2 as positive, and 1 lab reported 3DL1 as positive instead of negative.

Predicted haplotypes

Arnold - AB and AB

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

KDNA # 251: KIR2DL1-2LD2-2DL4-2DL5A&B-3DL1-3DL2-3DL3-3DS1-2DS1-2DS2-2DS3-2DS4FULL-2DP1-3DP1FULL&DEL was the reported KIR type for this sample from a Caucasian donor. A number of discrepancies were reported for this sample. Two labs reported KIR2DL5 as negative and 5 labs reported 2DL3 as positive. One lab reporting KIR2DL3 as positive, noted the amplification for 2DL3 was weak.

Predicted haplotypes

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

Renac - AB

KDNA # 252: KIR2DL1-2DL2-2DL3?-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS4FULL&DEL-2DS5-2DP1-3DP1FULL&DEL was the reported KIR genotype for this sample from an African American donor. No agreement was achieved for the reporting of KIR2DL3 in this sample; 33 labs (57%) reported 2DL3 as absent and 25 labs (43%) reported the gene was present. KIR2DL3 was not included in the grading analysis as a result. Gen-dzekhadze kindly shared their findings for KIR2DL3, noting they observed a discrepancy in test results between method types in which the gene was positive by qPCR and negative by SSP/SSO.

Predicted haplotypes

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

Renac - AB

KDNA # 253: KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4DEL-2DS5-2DP1-3DP1DEL was the reported KIR genotype for this sample from an African American donor. Only a single discrepancy was observed for this sample, in which 1 lab reported 2DL2 as positive instead of negative.

Predicted haplotypes:

Arnold - A and AB

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

Renac - AB

KDNA # 254: KIR2DL2-2DL4-3DL1-3DL2-3DL3-2DS2-2DS4FUL&DEL-3DP1FULL was the reported KIR genotype for this sample from a Hispanic donor. Two labs reported KIR2DL3 as positive instead of negative.

Predicted haplotypes

Arnold - BA1 and BA1

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

Renac - AB

NEXT MAILING DATE: July 31, 2024

Arlene Locke, David Gjertson, Qiheng Zhang, and Elaine F. Reed

Table 1. Summary of the 58th KIR Exchange (KDNA #249-254)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	
#58	249	57	NEG[57]	POS[55] *00101+00101[1] *0010102,0010102[1]	NEG[56] POS[1]	POS[53] *00801[1] *0080101,0080101[1] DEL[1] NEG[1]	POS[45] B[11] B*0020103[1]	POS[55] *00101/ *095[1] *0010109[1]	POS[55] *001/*006/ *100/*116+ *007*010[1] *0010102, *0070102[1]	POS[55] *00301+ *02802[1] *02802, *0030103[1]	NEG[57]	POS[55] NEW/ *00201[1] NT[1]	POS[56] *0010102, *0010102 NEW[1]	NEG[57]	POS[38] DEL[16] *0030102/ *0030103[1] NEG[1] NT[1]	POS[55] *00201[1] *0020132[1]	NEG[55] NT[2]	POS[44] FULL[10] *001/*00302/ *004/*00901[1] *001,*0030201[1] NT[1]	
	250	58	NEG[1]	POS[55] *0020103, *0030225[1] *001/002+ *003/034/ *071/074[1]	NEG[57] POS[1]	POS[56] *0010101, *0020103[1] *00101+ *00201[1]	POS[55] *0050101[1] *00501+ *00501[1] NORM[1]	POS[48] A[9] A*0010101, *0010103[1]	NEG[57] POS[1]	POS[56] *00708, *0070102[1] *007+*007[1]	POS[56] *00210, *0010101[1] *00101+ *00210[1]	POS[56] *0130113, *0130127[1] *01301/ *107+ *01301/ *107[1]	POS[56] *00201+ *00201[1] NT[1]	NEG[58]	NEG[58]	NEG[57] NT[1]	POS[56] *0020113[1] *00201+ *00201[1]	POS[55] *00301+ *00301[1] NT[2]	POS[44] DEL[11] *0030202, *0060101[1] NORM[1] NT[1]
	251	58	POS[56] *0040101[1] *00401/ 035[1]	POS[56] *0010102, *0010102[1], *00101+ *00101[1]	NEG[53] POS[5]	POS[55] NORM[1] *0010304, *0050101[1] *00103+ *00501[1]	POS[47] A,B[6] B[1] A[1] A*0050101, B*0020107[1] NEG[2]	POS[56] *0200101/ 0200102/ 0200103[1]	POS[56] *00902, *0070103[1] *001/007/ *010+009/ *019/*112[1]	POS[56] *036, *140205[1] *01402/ *092+*036[1]	POS[56] *0130101[1] *01301/ *107[1]	POS[56] NEW/ *00201[1] NT[1]	POS[57] *0010105 *0010124[1]	POS[55] Ambiguous[1] *0010313, *0020103[1] *017[1] FULL, DEL[1] NT[1]	POS[42] FULL[12] NORM[1] *00101/ *01102/ *017[1] FULL, DEL[1] NT[1]	NEG[58]	POS[55] *0010201/ *0010202/ *0010203[1] NT[2]	POS[44] FULL, DEL[11] *001, *0030101[1] *001/*00302/ *004/*00901+ *00301[1] NT[1]	
	252	58	POS[56] *01201[1] *1201[1]	POS[56] *00301+ *00602[1] *00602, *0030101[1]	POS[25] NEG[33]	POS[55] NEW/ *00102+ *00103/ *00501[1] *0010201, *0050101[1] NORM[1]	POS[45] B[12] B*00805[1]	POS[57] *0020103, *0070101[1]	POS[56] *00201/ *00202/ *101/ *102+*028[1] *028, *0020101[1]	POS[56] *01406+ *036[1] *036, *1406[1]	NEG[58]	NEG[55] POS[2] NT[1]	POS[56] *00101/ *002*022[1] NEG[1]	NEG[58]	POS[40] FULL, DEL[14] *00101/ *017+*013[1] NORM[1] FULL[1] NT[1]	POS[57] *0060101[1] NT[2]	POS[55] *009[1] NT[2]	POS[45] FULL, DEL[11] *0030201, *0090101[1] NT[1]	

Table 1. Summary of the 58th KIR Exchange (KDNA #249-254)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#58	253	58	POS[56] *00301/ *00302/ *034/*071/ *074+ *025[1] *025, *0030220[1]	NEG[57] <i>POS[1]</i>	POS[57] *0010101, *0010102[1]	POS[55] *00103/ *NEW+ *00801/ *013[1] NORM DEL[1] POS[48] A[9] A*015[1]	POS[56] *00101/ *095[1] *0010103[1]	POS[57] *056, *0010101[1]		POS[56] *00901/ *8081+ *800901/ *081[1] *0090101, *0090102[1]	POS[56] *014[2]	POS[56] *008[1] NT[1]	NEG[58]	NEG[58]	POS[38] DEL[17] *0030101[1] <i>NEG[1]</i> NT[1]	POS[56] *00802[1] *00501[1]	POS[54] *00201+ *00201[1] <i>NEG[1]</i> NT[2]	POS[44] DEL[11] NORM[1] *0030202, *0030205[1] NT[1]
	254	58	NEG[58]	POS[56] *00301+ *00301[1] *0030101[1]	NEG[56] <i>POS[2]</i>	POS[55] NORM / *DEL[1] *00102+ *00801[1] *0010201, *0080101[1]	POS[56] *00101/ *095+ *01502/ *01702[1] *0010106, *0150204[1]	POS[57] *01101, *0020105[1]		POS[56] *01403+ *02801[1] *1403, *02801[1]	NEG[58]	NEG[56] <i>POS[1]</i> NT[1]	POS[57] *0010108[1]	NEG[58]	POS[43] FULL, DEL[14] NT[1]	NEG[58]	NEG[56] NT[2]	POS[45] FULL[11] *001NEW, 007[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 #249 (Caucasian)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	NEG[57]	POS[57]	NEG[56]	POS[56]	POS[45]+ B[12]	POS[57]	POS[57]	POS[57]	NEG[57]	POS[56]	POS[57]	NEG[57]	POS[39]+ DEL[16]	POS[57]	NEG[55]	POS[46]+ FULL[10]	
124	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NT	NT	SSP
187	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
713	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
733	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP NGS
762	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP
792	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
1108	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	POS	SSO
1426	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP SSO
1466	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
1694	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
3224	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
3410	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
3519	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
3753	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
3798	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
3966	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
4021	NEG	POS	POS	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
4251	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
4337	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
4345	NEG	POS	NEG	NEG	POS	POS	POS	POS	NEG	POS	POS	NEG	NEG	POS	NEG	POS	SSP
5000	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
5133	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	RT-PCR
5142	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP
5219	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
5282	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
5462	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP
5488	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8030	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8047	NEG	*00101+	NEG	*00801	POS	*00101/ *095	*001/*006/ *100/*116+ *007/*010	*00301+ *02802	NEG	NEW/ *00201	POS	NEG	*0030102/ *0030103	*00201	NEG	*001/ *00302/ *004/ *00901	NGS
8050	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP
8053	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSO
8060	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8069	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	POS	SSO
8071	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8073	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	RT-PCR
8074	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	POS	SSO
8079	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8080	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	SSP
																	RT-PCR

Table 2. KDNA #249 (Caucasian)																	
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	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8084	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8085	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	NGS
8086	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP
8090	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP SSO
8092	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8098	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	ALL EX.4 DEL EX.5	POS	NEG	POS	SSO
8104	NT																SSP
8105	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	NGS
8110	NEG	POS	NEG	POS	B	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	FULL	RT-PCR
8118	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8122	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8124	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSP SSO
8127	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	RT-PCR
8129	NEG	POS	NEG	DEL	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	POS	SSP
8130	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	NGS
8132	NEG	*0010102, *0010102	NEG	*0080101, *0080101	B*0020103	*0010109	*0010102, *0070102	*02802, *0030103	NEG	NT	*0010102, *0010102 NEW	NEG	NT	*0020132	NT	*001, *0030201	NGS
8134	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	DEL	POS	NEG	POS	SSO
8135	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO
8136	NEG	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	NEG	POS	SSO

Table 3. KDNA #250 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[57]	NEG[57]	POS[58]	POS[58]	POS[48]+ A[10]	NEG[57]	POS[58]\	POS[56]	POS[56]	POS[57]	NEG[58]	NEG[58]	NEG[57]	POS[58]	POS[56]	POS[45]+ DEL[12]	
124	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	NT	NT	SSP
187	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
713	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
733	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP NGS
762	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP
792	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
1108	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
1426	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP SSO RT-PCR
1466	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
1694	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
3224	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
3410	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
3519	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
3753	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
3798	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
3966	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
4021	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
4251	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
4337	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
4345	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
5000	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
5133	POS	NEG	POS	POS	A,B?	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	RT-PCR
5142	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP
5219	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
5282	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
5462	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP
5488	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8030	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8047	*001/ *002+ *003/*034/ *071/*074	NEG	*00101+ *00201	*00501+ *00501	POS	NEG	*007+ *007	*00101+ *00210	*01301/ *107+ *01301/ *107	*00201+ *00201	NEG	NEG	NEG	*00201+ *00201	*00301+ *00301	POS	NGS
8050	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP
8053	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSO RT-PCR
8060	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	
8069	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8071	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8073	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	RT-PCR
8074	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8079	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8080	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP RT-PCR

Table 3. KDNA #250 (Hispanic)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8083	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8084	NEG	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
8085	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	NGS
8086	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP
8090	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP SSO
8092	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
8098	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8104	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	SSP
8105	POS	NEG	POS	POS	A	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	NGS
8110	POS	NEG	POS	POS	A,B?	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	DEL	RT-PCR
8118	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
8122	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
8124	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSP SSO
8127	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	RT-PCR
8129	POS	NEG	POS	NORM	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	NORM	SSP
8130	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	NGS
8132	*0020103, *0030225	NEG	*0010101, *0020103	*0050101	A*0010101, *0010103	NEG	*00708, *0070102	*00210, *0010101	*0130113, *0130127	NT	NEG	NEG	NT	*0020113	NT	*0030202, *0060101	NGS
8134	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8135	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO
8136	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	SSO

Table 4. KDNA #251 (Caucasian)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[58]	POS[58]	NEG[53]	POS[58]	POS[49]+ A,B[7]	POS[58]	POS[58]	POS[58]	POS[58]	POS[57]	POS[58]	POS[58]	POS[43]+ FULL[14]	NEG[58]	POS[56]	POS[44]+ FULL, DEL[13]	
124	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NT	NT	SSP
187	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
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	A,B	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL,DEL	SSP
792	POS	POS	NEG	POS	NEG	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	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 SSO
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
3224	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
3410	POS	POS	POS	POS	B	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
3519	POS	POS	NEG	POS	NEG	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	SSO
3798	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
3966	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
4021	POS	POS	POS	POS	A,B	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	SSP
5000	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
5133	POS	POS	NEG	POS	A,B?	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL,DEL	RT-PCR
5142	POS	POS	NEG	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
5462	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL,DEL	SSP
5488	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8030	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8047	*00401/ *035	*00101+ *00101	NEG	*00103+ *00501	POS	*0200101/ *0200102/ *0200103	*001/*007/ *010+*009/ *019/*112	*01402/ *092+ *036	*01301/ *107	*NEW/ *00201	POS	*00103/ *007+ *00201	*00101/ *01102/ *017	NEG	*0010201/ *0010202/ *0010203	*001/ *00302/ *004/ *00901+ *00301	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	FULL,DEL	SSO
8060	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8069	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	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	A, B	POS	POS	POS	POS	POS	POS	POS	FULL DEL	NEG	POS	FULL DEL	RT-PCR

Table 4. KDNA #251 (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	POS	FULL	NEG	POS	POS	SSO
8079	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8080	POS	POS	NEG	POS	A	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL,DEL	SSP RT-PCR
8083	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8084	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	Ambiguous	POS	NEG	POS	POS	POS	RT-PCR
8085	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	NGS
8086	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8090	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
8092	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	RT-PCR
													ALL EX.4 FULL LENGTH					
8098	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	EX.5	NEG	POS	POS	SSO
8104	POS	POS	NEG	POS	A,B	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	FULL,DEL	SSP
8105	POS	POS	NEG	POS	A,B	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8110	POS	POS	NEG	POS	A,B?	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL,DEL	RT-PCR
8118	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8122	POS	POS	NEG	POS	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	POS	NEG	POS	POS	SSP SSO
8127	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	RT-PCR
8129	POS	POS	NEG	NORM	POS	POS	POS	POS	POS	POS	POS	POS	POS	NORM	NEG	POS	POS	SSP
8130	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NGS
8132	*0040101	*0010102, 0010102	NEG	*0010304, *0050101	A*0050101, B*0020107	*0200103	*00902 ,0070103	*036, *140205	*0130101	NT	*0010105, *0010124	*0010313, *0020103	NT	NEG	NT	*001, *0030101	NGS	
8134	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	FULL	NEG	POS	POS	SSO
8135	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO
8136	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSO

Table 5. KDNA #252 (Black)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[58]	POS[58]	POS[25] NEG[33]	POS[58]	POS[45]+ B[13]	POS[58]	POS[58]	POS[58]	NEG[58]	NEG[55]	POS[57]	NEG[58]	POS[42]+ FULL, DEL[15]	POS[58]	POS[56]	POS[45]+ FULL, DEL[12]	
124	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	NT	NT	SSP
187	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	RT-PCR
733	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP NGS
762	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSP
792	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	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	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSP SSO 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
3224	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3410	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
3519	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
3753	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3798	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3966	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
4021	POS	POS	POS	POS	B	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	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
5000	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	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	NEG	NEG	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	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSP
5488	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8030	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8047	*01201	*00301+ *00602	NEG	NEW/ *00102+ *00103/ *00501	POS	POS	*00201/ *00202/ *101/ *102+*028	*01406+ *036	NEG	NEG	*00101/ *002/*022	NEG	*00101/ *017+*013	POS	*009	POS	NGS
8050	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSP
8053	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSO RT-PCR
8060	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
8069	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	POS	SSO
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	POS	POS	POS	SSO
8079	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO

Table 5. KDNA #252 (Black)																	
CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8080	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	SSP RT-PCR
8083	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
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
8090	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8092	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8098	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
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
8110	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	FULL,DEL	RT-PCR
8118	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8122	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8124	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8127	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8129	POS	POS	POS	NORM	POS	POS	POS	POS	NEG	NEG	POS	NEG	NORM	POS	POS	POS	SSP
8130	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	NGS
8132	*1201	*00602, *0030101	NEG	*0010201, *0050101	B*00805	*0020103, *0070101	*028, *0020101	*036, *1406	NEG	NT	NEG	NEG	NT	*0060101	NT	*0030201, *0090101	NGS
8134	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	POS	POS	POS	SSO
8135	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8136	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO

Table 6. KDNA #253 (Black)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	POS[58]	NEG[57]	POS[58]	POS[58]	POS[48]+ A[10]	POS[58]	POS[58]	POS[58]	POS[58]	POS[57]	NEG[58]	NEG[58]	POS[38]+ DEL[18]	POS[58]	POS[55]	POS[45]+ DEL[12]	
124	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
187	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	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	DEL	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	DEL	POS	POS	POS	SSO
1426	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP SSO
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
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
3519	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
3753	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3798	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3966	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
4021	POS	NEG	POS	POS	A	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	NEG	POS	POS	POS	SSP
5000	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5133	POS	NEG	POS	POS	A,B?	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	RT-PCR
5142	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	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
5462	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
5488	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8030	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8047	*00301/ *00302/ *034/*071/ *074+*025	NEG	POS		*00103/ NEW+ *00801/ *013												NGS
8050	POS	NEG	POS	POS	A												SSP
8053	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSO
8060	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8069	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	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	DEL	POS	POS	DEL	RT-PCR
8074	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	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	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
																	RT-PCR

Table 6. KDNA #253 (Black)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8083	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
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	RT-PCR
8098	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	ALL EX.4 DEL EX.5	POS	POS	POS	SSO
8104	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
8105	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
8110	POS	NEG	POS	POS	A,B?	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	RT-PCR
8118	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
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 SSO
8127	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8129	POS	NEG	POS	NORM / DEL	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	NEG	NORM	SSP
8130	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
8132	*025, *0030220	NEG	*0010101, *0010102	*0010308, *0080101	A*015	*0010103	*056, *0010101	*0090101, *0090102	*014	NT	NEG	NEG	NT	*00501	NT	*0030202, *0030205	NGS
8134	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSO
8135	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8136	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO

Table 7. KDNA #254 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	NEG[58]	POS[58]	NEG[56]	POS[58]	NEG[58]	POS[58]	POS[58]	POS[58]	NEG[58]	NEG[56]	POS[58]	NEG[58]	POS[43]+ FULL, DEL[14]	NEG[58]	NEG[56]	POS[45]+ FULL[13]	
124	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
187	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
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
																	SSP SSO
1426	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	FULL	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
3224	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3410	NEG	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3519	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSP
3753	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3798	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
3966	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
4021	NEG	POS	POS	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	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	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	POS	POS	NEG	FULL,DEL	NEG	NEG	FULL	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
5462	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	FULL	SSP
5488	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8030	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8047	NEG	*00301+	NEG	*00102+	NEG	*00101/ *095+ *01502/ *01702	POS	*01403+ *02801	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8050	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	FULL	SSP
																	SSO
8053	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	FULL	RT-PCR
8060	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	
8069	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	POS	SSO
8071	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
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	SSO

Table 7. KDNA #254 (Hispanic)

CTR	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
8080	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	FULL	SSP RT-PCR
8083	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
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	RT-PCR
8098	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
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
8110	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	FULL	RT-PCR
8118	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
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 SSO
8127	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	RT-PCR
8129	NEG	POS	NEG	NORM / DEL	NEG	POS	POS	POS	NEG	NEG	POS	NEG	NORM / DEL	NEG	NEG	POS	SSP
8130	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	NGS
8132	NEG	*0030101	NEG	*0010201, 0080101	NEG	*0010106, *0150204	*01101, *0020105	*1403, *02801	NEG	NT	*0010108	NEG	NT	NEG	NT	*001NEW, *007	NGS
8134	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL,DEL	NEG	NEG	POS	SSO
8135	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO
8136	NEG	POS	NEG	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NEG	POS	SSO

Table 8. Participating Centers

Director Last Name	Director First	Honor	Institution	City	State	Country
Alexander Keck	Dr Rainer Frank/		inno-train Diagnostik GmbH	Kronberg		Germany
Alquist	Caroline	Dr	Hoxworth Blood Center	Cincinnati	OH	
An	Lin		Shanghai Tissuebank Medical Laboratory	Shanghai		China
Arnold	Paula	PhD	St Jude Children's Research Hosp	Memphis	TN	
Azzaro	Maria	Dr.ssa	AOU "Policlinico-Vitt. Emanuele"	Catania		Italy
Baj-Krzyworzeka	Monika		Uniwersytecki Szpital Dziecięcy w Krakowie	Krakow		Poland
Bengtsson	Mats	MD	Uppsala University Hospital	Uppsala		Sweden
Berka	Noureddine	Dr	American National Red Cross	Philadelphia	PA	
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	
Cereb	Nezih	MD	HistoGenetics	Ossining	NY	
Chan	Marieta	Dr	Health Sciences Authority			Singapore
Chang	Yenhui	Dr	TBG Biotechnology Corp.	New Taipei City		Taiwan, Province Of China
Chen	Dongfeng	PhD	Duke University Health System	Durham	NC	
Chung	Yeun-Jun	Prof	The Catholic University of Korea College of Med	Seoul		Republic of Korea
Dambaeva	Svetlana	Dr	Rosalind Franklin University	North Chicago	IL	
Daniel	Dolly	Prof Dr	Christian Medical College & Hospital	Vellore,Tamil Nadu		India
D'Orsogna	Lloyd	Dr	Fiona Stanley Hospital	Murdoch		Australia
Fernandez-Vina	Marcelo	PhD	Stanford Blood Center	Palo Alto	CA	
Fischer	Gottfried	Dr	AKH-Blood Group Serology & Transfusion Medicine	Vienna		Austria
Fuessel	Monika	PhD	DKMS Life Science Lab gGmbH	Dresden		Germany
Furst	Daniel	PD Dr med	IKT Und Immunogenetik Ulm	Ulm, Baden-Wuerttemberg		Germany
Gandhi	Manish J.	MD	Mayo Clinic	Rochester	MN	
Gendzekhadze	Ketevan	PhD	City of Hope Medical Center	Duarte	CA	
Girnit	Alin	Dr	UCI Medical Center	Orange	CA	
Guan	Qingdong	Dr, F(ACHI)	Cancer Care Manitoba	Winnipeg	MB	Canada
He	Jun		First Affiliated Hospital of Soochow University	Suzhou, Jiangsu		China
Hirv	Kaimo		MVZ Martinsried GmbH	Martinsried		Germany
Kashi	Zahra	Dr	Kashi Clinical Laboratories	Portland	OR	
Koester	Ruth	PhD	LabCorp	Burlington	NC	

Table 8. Participating Centers

Director Last Name	Director First	Honor	Institution	City	State	Country
Kwok	Janette	Dr	Queen Mary Hospital			Hong Kong
Lalli	Peter	Dr	Health Network Laboratories	Allentown	PA	
Marsh	Steven GE	Prof	Anthony Nolan	London		United Kingdom
Monos	Dimitri	PhD	Children's Hospital of Philadelphia	Philadelphia	PA	
Morris	Gerald	MD, PhD	UCSD	San Diego	CA	
Nikaein	Afzal	PhD, HCLD	Texas Medical Specialty, Inc.	Dallas	TX	
Pan	Jianhua		Guangzhou KingMed Center for Clinical Lab. Co.,Ltd.	Kwun Tong, Kowloon		Hong Kong
Pando Rigal	Marcelo	PhD	Baylor University Medical Center	Dallas	TX	
Penning	Maarten	PhD	Genome Diagnostics B.V. (GenDx)	Utrecht		Netherlands
Pereira	Shalini	Dr	Scisco Genetics, Inc.	Seattle	WA	
Permpikul	Parichart	Capt	Mahidol University	Bangkok		Thailand
Philogene	Mary Carmelle	PhD, F(ACHI)	VCU Health Systems	Richmond	VA	
Pollack	Marilyn S.	PhD	UCSF Benioff Children's Hospital-Oakland	Oakland	CA	
Poulton	Kay	Dr	Manchester Royal Infirmary	Manchester		United Kingdom
Raja	Rajalingam	PhD	University of California San Francisco	San Francisco	CA	
Reed	Elaine F.	PhD	UCLA Immunogenetics Center	Los Angeles	CA	
Renac	Virginie	MD	Etablissement Francais du Sang Bretagne	Rennes Cedex		France
Rossi	Angela	Dr	Ospedale Guglielmo Da Saliceto	Piacenza		Italy
Sachsenberg	Nicolas	Dr	BAG Diagnostics GmbH	Lich, Hesse		Germany
Schiller	Jennifer	PhD	Versiti Wisconsin, Inc.	Milwaukee	WI	
Tan	Aiguo		Beijing BoFuRui Medical Laboratory Co. Ltd.	Beijing		China
Tan	Aiguo		Guangzhou BoFuRui Medical Laboratory, Co. Ltd.	Guangzhou		China
Thiel	Jennifer		Werfen (Immucor GTI-Diagnostics)	Waukesha	WI	
Ward	William	PhD, F(ACHI)	National Institutes of Health	Bethesda	MD	
Yu	Neng	Dr	UMass Memorial Medical Center	Dedham	MA	
Yu	Neng	MD	American Red Cross	Worcester	MA	
Zhang	Xiaohai	PhD	Cedars-Sinai Medical Center	Los Angeles	CA	