

REPORT OF THE 39TH UCLA INTERNATIONAL KIR EXCHANGE

APRIL 1, 2016

KIR	153-156
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For the 39th KIR Exchange, 4 DNA samples (KDNA# 153 - 156) were shipped to 77 participating laboratories (Table 6). A total of 72 laboratories submitted their KIR typing results.

The results for the 39th KIR Exchange are summarized in Table 1 and individual laboratory results reported for each DNA sample are provided in Tables 2 - 5. Subtyping results for KIR2DL2, 2DL5, 3DL1, 2DS1, 2DS3, 2DS4, and 3DP1 loci were reported by some laboratories. The subtypes for

2DS4 and 3DP1 are denoted as FULL or DEL. The positive/negative assignments for all 4 DNA samples were reported without any discrepancy for 8 of the 16 tested KIR loci (KIR2DL1, 2DL3, 3DL1, 3DL3, 2DS3, 2DS5, 2PD1, and 3DP1). Discrepant results from the consensus typing are italicized in tables 1 - 5 and described in the summation for each sample. Discrepancies at the allele level are not italicized.

KIR Exchange Sample: KDNA # 0153:

The consensus KIR type for this sample from a Black donor is KIR2DL1-2DL2-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS4FULL-2DS5-2DP1-3DP1DEL. Only 2 discrepancies were observed for this sample, as 1 lab reported 3DL2 as negative instead of positive and 1 lab reported 3DS1 as positive instead of negative. Arnold, along with Hartzman and Hurley, commented on the unusual haplotype present in this sample, noting the presence of 2DL2 in the absence of 2DS2. The genotype in this sample is observed exclusively in African American populations at a frequency of 3.5% (1,2).

KIR Exchange Sample: KDNA # 0154:

The consensus KIR type for this sample from a Caucasian donor is KIR2DL1-2DL2-2DL3-2DL4-2DL5A&B-3DL2-3DL3-3DS1-2DS1-2DS2-2DS3-2DS5-2DP1-3DP1DEL. One lab reported this sample as negative for 2DL4, 1 reported it as negative for 2DL5, 1 reported 3DS1 was negative, and 3 labs reported 2DS4 as positive instead of negative. Interestingly, 2 labs (Arnold and Fagoaga) observed variable results for KIR2DL5. Arnold noted this sample was "positive in the well that covers both 2DL5A and 2DL5B, but negative in the wells that cover 2DL5A and 2DL5B separately." Fagoaga reported similar findings for KIR2DL5, observing "positive and negative amplification for required lanes". The genotype in this sample is observed in

Basque populations (5.6%), as well as in Asian Indians, with the highest frequency observed among the Pakistani (9.0%) (2, 3).

KIR Exchange Sample: KDNA # 0155:

The consensus KIR type for this sample from a donor of mixed Chinese and Filipino heritage is KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS3-2DS4FULL-2DP1-3DP1DEL. One lab reported 3DS1 as negative instead of positive and 1 lab reported 2DS2 as positive instead of negative. This KIR genotype is observed across all populations. In Southeast Asians, the frequency ranges from 2.5% - 12%, and in Northeast Asians, the frequency ranges from 5.7% - 7.9% (4, 5).

KIR Exchange Sample: KDNA # 0156:

The consensus KIR type for this sample from a donor of mixed Hispanic and Caucasian heritage is KIR2DL1-2DL2-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS3-2DS4FULL&DEL-2DP1-3DP1FULL&DEL. One lab reported 3DS1 as positive instead of negative and 1 lab reported 2DS1 as positive instead of negative. The genotype in this sample is observed in Caucasian Americans and Hispanics, with respective frequencies of 3.1% and 0.8% (2, 6). It is absent in Native American and Mexican populations.

References:

1. Norman PJ, Carrington CV, Byng M, Maxwell LD, Curran MD, et al. Natural killer cell immunoglobulin-like receptor (KIR) locus profiles in African and South Asian populations. *Genes Immun* 2002;3:86–95.
2. Middleton D, Meenagh A, Moscoso J, et al. Killer immunoglobulin receptor gene and allele frequencies in Caucasoid, Oriental and Black populations from different continents. *Tissue Antigens* 2008;71:105-113.
3. Ashouri E, Farjadian S, Reed EF, et al. KIR gene content diversity in four Iranian populations. *Immunogenetics*. 2009;61:483-492.
4. Jiang, K, FM Zhu, QF Lv, and L.X. Yan. 2005. Distribution of killer cell immunoglobulin-like receptor genes in the Chinese Han population. *Tissue Antigens* 65:556-563.
5. Han Y, Zhao L, Jiang Z., and Ma, N. Analysis of the expression of KIR and HLA-Cw in a Northeast Han population. *Experimental and Therapeutic Medicine*. 2013;5:300–304.
6. Rajalingam, R, Du, Z, Meenagh, A, Luo, L., Kavitha, V. J., Pavithra-Arulvani, R., Vidhyalakshmi, A., Sharma, S. K., Balazs, I., Reed, E. F., *et al.* (2008). Distinct diversity of KIR genes in three southern Indian populations: comparison with world populations revealed a link between KIR gene content and pre-historic human migrations. *Immunogenetics* 2008;60:207-217.

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Table 1. Summary of the 39th KIR Exchange (KDNA #153-156)

KIR Ex.	DNA	# Reporting Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#39	153	72	POS[72]	POS[71] *004[1]	NEG[72]	POS[70] NT[2]	POS[55] B[16] B*00601[1]	POS[70] *01502[1] *001[1]	POS[70] <i>NEG[1]</i> NT[1]	POS[70] NT[2]	NEG[71] <i>POS[1]</i>	NEG[72]	NEG[72]	NEG[72]	POS[49] FULL(21) WT[1] *001[1]	POS[72]	POS[70] NT[2]	POS[53] DEL[15] *003[1] NT[3]
	154	72	POS[72]	POS[72]	POS[72]	POS[69] <i>NEG[1]</i> NT[2]	POS[61] A, B[6] A*00102, B*00201[1] A[1] NEW[1] *005[1] <i>NEG[1]</i>	NEG[72]	POS[71] NT[1]	POS[70] NT[2]	POS[71] <i>NEG[1]</i>	POS[70] *002[1] *002- *008[1]	POS[72]	POS[72]	NEG[68] POS[3] <i>NEG[1]</i>	POS[71] NT[1]	POS[70] NT[2]	POS[53] DEL[15] *003[1] NT[3]
	155	72	POS[72]	NEG[72]	POS[72]	POS[70] NT[2]	POS[54] A[16] A*005[1] A*00501[1]	POS[70] *01502[1] *001[1]	POS[71] NT[1]	POS[70] NT[2]	POS[71] <i>NEG[1]</i>	POS[70] *002- *008[1] *002[1]	NEG[71] <i>POS[1]</i>	POS[71] *00101- *004/*006- *007[1]	POS[51] FULL[19] WT[1] *001[1]	NEG[72]	POS[70] NT[2]	POS[53] DEL[15] *003[1] NT[3]
	156	72	POS[72]	POS[72]	NEG[71] NT[1]	POS[70] NT[2]	POS[53] B[17] B*002[1] B*00201[1]	POS[70] *001[1] *01502, *005[1]	POS[71] NT[1]	POS[70] NT[2]	NEG[71] <i>POS[1]</i>	NEG[71] <i>POS[1]</i>	POS[72]	POS[72]	POS[56] FULL, DEL[15] WT/DEL[1]	NEG[72]	POS[70] NT[2]	POS[59] FULL_DEL[10] NT[3]

KEY for Table 1

[] - 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

KEY for Tables 2-5

italics - assignment different from consensus
 SSP - Sequence-specific priming-based typing
 SSOP - Sequence-specific oligonucleotide probing-based typing
 SSO - Reverse Sequence-specific oligonucleotide probing-based typing
 SBT - Sequencing-based typing
 NGS - Next generation sequencing
 RT-PCR - Real Time PCR

Table 2. KIR Exchange Sample: KDNA #153 (Black)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	NEG [72]	POS [70]	POS[55]+ B[17]	POS [72]	POS [70]	POS [70]	NEG [71]	NEG [72]	NEG [72]	NEG [72]	POS[49]+ FULL (23)	POS [72]	POS [70]	POS [53]+ DEL [16]	
5488	Adams, Sharon	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP SSO
8094	Ameen, Reem	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
5462	Arnold, Paula	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
5133	Askar, Medhat	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSO NGS RT-PCR
8073	Bengtsson, Mats	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
713	Bettinotti, Maria	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8026	Bittencourt, Vanessa	POS	POS	NEG	POS	POS	POS	NEG	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8038	Cao, Kai	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	POS	SSO
8025	Carrington, Martin &	POS	*004	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	NT	SSP
1461	Cauwelier, Barbara	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
774	Cecka, J. Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
3224	Chen, Dong-Feng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
3632	Colombe, Beth W.	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
189	Crowe, Deborah	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP SSO
8095	denHollander, Neal	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
705	Ellis, Thomas	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
3410	Ellison, Cynthia	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
2549	Fagoaga, Omar	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
234	Fernandez, Casiana	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8053	Fernandez-Vina, Ma	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP SSO
762	Fischer, Gottfried	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
1778	Freed, Brian	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
8047	Fuessel, Monika	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP NGS
8076	Gaitonde , Sujata	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
1647	Gautreaux, Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
124	Gizzarelli, Laila	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	NT	NT	SSP
8022	Hedlund, Anna	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
1694	Hesse, Nicole	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
4985	Hoover, Beverly	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
5000	Hsu, Susan H.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP SSO
2344	Hurley, Hartzman&	POS	POS	NEG	POS	B*00601	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	POS	SSP SSO SBT
8093	Jindra, Peter	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8074	JunHe,	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8079	Kashi, Zahra M.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
4337	Kim, Tai-Gyu	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8084	Kimball, Pam	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8046	Kusnierczyk, Piotr	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	POS	SSP
8071	Kwok, Janette	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
791	Lacelle, Chantale	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
278	Lee, Jar-How	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO

Table 2. KIR Exchange Sample: KDNA #153 (Black)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	NEG [72]	POS [70]	POS[55]+ B[17]	POS [72]	POS [70]	POS [70]	NEG [71]	NEG [72]	NEG [72]	NEG [72]	POS[49]+ FULL (23)	POS [72]	POS [70]	POS [53]+ DEL [16]	
8088	Liu, Cong	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
8069	Maha, George	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
5142	Marsh, Steven	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8097	Meunier, Marie-Chr	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8080	Monos, Dimitrios	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8092	Morris, Gerald	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
8091	Murphey, Cathi	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
733	Mytilineos, Joannis	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8083	Nikaein, Afzal	POS	POS	NEG	POS	POS	*001	POS	POS	NEG	NEG	NEG	NEG	*001	POS	POS	POS	SSP
3966	Permpikul, Vejbaes	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
4021	Pollack, Marilyn S.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
8030	Poulton, Kay	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8050	Raja, Rajalingam	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	POS	SSP
3753	Reed, Elaine F.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP SSO
3798	Reinsmoen, Nancy	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP SSO
8090	Rossi, Angela	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP SSO
8060	Rost, Klein &	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8039	Scaff,Carolynn	POS	POS	NEG	POS	B*002	*01502, *005	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
4251	Schiller, Jennifer	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
1426	Senitzer, David	POS	POS	NEG	POS	POS	*01502	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	*003	SSP
8085	Shalini, Pereira	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	
8077	Shanahan, Thomas	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	POS	
702	Spannagl, Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
3261	Stevens, Tait	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
3808	Thornton, Alycia	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
5451	Tilanus, Marcel G.J	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO
8024	Trowsdale, John	POS	POS	NEG	NT	POS	POS	NT	NT	NEG	NEG	NEG	NEG	WT	POS	POS	DEL	SSP
8028	Uhrberg, Markus	POS	POS	NEG	NT	POS	POS	POS	NT	NEG	NEG	NEG	NEG	POS	POS	NT	NT	SSP
8023	Vilches, Carlos	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	FULL	POS	POS	DEL	SSP
5282	Yu, Neng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSP
1466	Yu, Neng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	NEG	NEG	POS	POS	POS	POS	SSO

Table 3. KIR Exchange Sample: KDNA #154 (Caucasian)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	POS [72]	POS [69]	POS[64]+ A, B [7]	NEG [72]	POS [71]	POS [70]	POS [71]	POS [72]	POS [72]	NEG [69]	POS [71]	POS [70]	POS[53]+ DEL[16]		
5488	Adams, Sharon	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP SSO
8094	Ameen, Reem	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
5462	Arnold, Paula	POS	POS	POS	POS	POS	NEG	POS	POS	POS	*002-*008	POS	POS	NEG	POS	POS	DEL	SSP
5133	Askar, Medhat	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSO NGS RT-PCR
8073	Bengtsson, Mats	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
713	Bettinotti, Maria	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8026	Bittencourt, Vaness	POS	POS	POS	NEG	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8038	Cao, Kai	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8025	Carrington, Martin	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NT	SSP
1461	Cauwelier, Barbara	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
774	Cecka, J. Michael	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
3224	Chen, Dong-Feng	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
3632	Colombe, Beth W.	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
189	Crowe, Deborah	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
8095	denHollander, Nea	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
705	Ellis, Thomas	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
3410	Ellison, Cynthia	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	NT	POS	DEL	SSP
2549	Fagoaga, Omar	POS	POS	POS	POS	*NEW	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
234	Fernandez, Casian	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8053	Fernandez-Vina, M	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP SSO
762	Fischer, Gottfried	POS	POS	POS	POS	A	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
1778	Freed, Brian	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
8047	Fuessel, Monika	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP NGS
8076	Gaitonde, Sujata	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
1647	Gautreaux, Michae	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
124	Gizzarelli, Laila	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NT	NT	SSP
8022	Hedlund, Anna	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
1694	Hesse, Nicole	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
4985	Hoover, Beverly	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
5000	Hsu, Susan H.	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
2344	Hurley, Hartzman&	POS	POS	POS	POS	A*00102, B*00201	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO SBT
8093	Jindra, Peter	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8074	JunHe,	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8079	Kashi, Zahra M.	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSO
4337	Kim, Tai-Gyu	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8084	Kimball, Pam	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8046	Kusnierczyk, Piotr	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8071	Kwok, Janette	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSO

Table 3. KIR Exchange Sample: KDNA #154 (Caucasian)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	POS [72]	POS [69]	POS[64]+ A, B [7]	NEG [72]	POS [71]	POS [70]	POS [71]	POS [72]	POS [72]	NEG [69]	POS [71]	POS [70]	POS[53]+ DEL[16]		
791	Lacelle, Chantale	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
278	Lee, Jar-How	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8088	Liu, Cong	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
8069	Maha, George	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
5142	Marsh, Steven	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8097	Meunier, Marie-Ch	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8080	Monos, Dimitrios	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
8092	Morris, Gerald	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
8091	Murphey, Cathi	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
733	Mytilineos, Joannis	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	POS	NEG	POS	POS	POS	SSP
8083	Nikaein, Afzal	POS	POS	POS	POS	POS	NEG	POS	POS	POS	*002	POS	POS	NEG	POS	POS	POS	SSP
3966	Permpikul, Vejbaes	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
4021	Pollack, Marilyn S.	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	SSP
8030	Poulton, Kay	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8050	Raja, Rajalingam	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
3753	Reed, Elaine F.	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
3798	Reinsmoen, Nancy	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
8090	Rossi, Angela	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP SSO
8060	Rost, Klein &	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8039	Scalf,Carolynn	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
4251	Schiller, Jennifer	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
1426	Senitzer, David	POS	POS	POS	POS	*005	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	*003	SSP
8085	Shalini, Pereira	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
8077	Shanahan, Thomas	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	
702	Spannagl, Michael	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
3261	Stevens, Tait	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
3808	Thornton, Alycia	POS	POS	POS	POS	A, B	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
5451	Tilanus, Marcel G.	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO
8024	Trowsdale, John	POS	POS	POS	NT	POS	NEG	NT	NT	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
8028	Uhrberg, Markus	POS	POS	POS	NT	POS	NEG	POS	NT	POS	POS	POS	POS	NEG	POS	NT	NT	SSP
8023	Vilches, Carlos	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	DEL	SSP
5282	Yu, Neng	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSP
1466	Yu, Neng	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	SSO

Table 4. KIR Exchange Sample: KDNA #155 (Chinese/Filipino)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	NEG [72]	POS [72]	POS [70]	POS[54]+ A[18]	POS [72]	POS [71]	POS [70]	POS [71]	POS[72]	NEG [71]	POS [72]	POS[51]+ FULL[21]	NEG [72]	POS [70]	POS[53]+ DEL[16]	
5488	Adams, Sharon	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP SSO
8094	Ameen, Reem	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
5462	Arnold, Paula	POS	NEG	POS	POS	A	POS	POS	POS	POS	*002-*008	NEG	POS	FULL	NEG	POS	DEL	SSP
5133	Askar, Medhat	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSO NGS RT-PCR
8073	Bengtsson, Mats	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
713	Bettinotti, Maria	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8026	Bittencourt, Vanessa	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	SSP
8038	Cao, Kai	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSO
8025	Carrington, Martin	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	NT	SSP
1461	Cauwelier, Barbara	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	*00101- *004/ *006- *007	FULL	NEG	POS	DEL	SSP
774	Cecka, J. Michael	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
3224	Chen, Dong-Feng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3632	Colombe, Beth W.	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
189	Crowe, Deborah	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8095	denHollander, Neal	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
705	Ellis, Thomas	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
3410	Ellison, Cynthia	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
2549	Fagoaga, Omar	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
234	Fernandez, Casian	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8053	Fernandez-Vina, M	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP SSO
762	Fischer, Gottfried	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
1778	Freed, Brian	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
8047	Fuessel, Monika	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP NGS
8076	Gaitonde, Sujata	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
1647	Gautreaux, Michael	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
124	Gizzarelli, Laila	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	NT	NT	SSP
8022	Hedlund, Anna	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
1694	Hesse, Nicole	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
4985	Hoover, Beverly	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
5000	Hsu, Susan H.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
2344	Hurley, Hartzman&	POS	NEG	POS	POS	A*00501	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSP SSO SBT
8093	Jindra, Peter	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8074	JunHe,	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8079	Kashi, Zahra M.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
4337	Kim, Tai-Gyu	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8084	Kimball, Pam	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8046	Kusnierczyk, Piotr	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	POS	SSP
8071	Kwok, Janette	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
791	Lacelle, Chantale	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP

Table 4. KIR Exchange Sample: KDNA #155 (Chinese/Filipino)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	NEG [72]	POS [72]	POS [70]	POS[54]+ A[18]	POS [72]	POS [71]	POS [70]	POS [71]	POS[72]	NEG [71]	POS [72]	POS[51]+ FULL[21]	NEG [72]	POS [70]	POS[53]+ DEL[16]	
278	Lee, Jar-How	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8088	Liu, Cong	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8069	Maha, George	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	DEL	SSP
5142	Marsh, Steven	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8097	Meunier, Marie-Ch	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8080	Monos, Dimitrios	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8092	Morris, Gerald	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8091	Murphey, Cathi	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
733	Mytilineos, Joannis	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NEG	POS	POS	NEG	POS	POS	SSP
8083	Nikaein, Afzal	POS	NEG	POS	POS	A	*001	POS	POS	POS	*002	NEG	POS	*001	NEG	POS	POS	SSP
3966	Permpikul, Vejbaes	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
4021	Pollack, Marilyn S.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
8030	Poulton, Kay	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8050	Raja, Rajalingam	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
3753	Reed, Elaine F.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
3798	Reinsmoen, Nancy	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8090	Rossi, Angela	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP SSO
8060	Rost, Klein &	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8039	Scaff, Carolyn	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
4251	Schiller, Jennifer	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
1426	Senitzer, David	POS	NEG	POS	POS	*005	*01502	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	*003	SSP
8085	Shalini, Pereira	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
8077	Shanahan, Thomas	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	
702	Spannagl, Michael	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
3261	Stevens, Tait	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
3808	Thornton, Alycia	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
5451	Tilanus, Marcel G.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO
8024	Trowsdale, John	POS	NEG	POS	NT	POS	POS	NT	NT	POS	POS	NEG	POS	WT	NEG	POS	DEL	SSP
8028	Uhrberg, Markus	POS	NEG	POS	NT	POS	POS	POS	NT	POS	POS	NEG	POS	POS	NEG	NT	NT	SSP
8023	Vilches, Carlos	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	FULL	NEG	POS	DEL	SSP
5282	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSP
1466	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	NEG	POS	POS	SSO

Table 5. KIR Exchange Sample: KDNA #156 (Hispanic/Caucasian)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	NEG [71]	POS [70]	POS[53]+ B[19]	POS [72]	POS [71]	POS [70]	NEG [71]	NEG [71]	POS [72]	POS [72]	POS[56] FULL,DEL[16]	NEG [72]	POS [70]	POS[59]+ FULL,DEL[10]	
5488	Adams, Sharon	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8094	Ameen, Reem	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
5462	Arnold, Paula	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
5133	Askar, Medhat	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSO NGS RT-PCR
8073	Bengtsson, Mats	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
713	Bettinotti, Maria	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8026	Bittencourt, Vanessa	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8038	Cao, Kai	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSO
8025	Carrington, Martin	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	NT	SSP
1461	Cauwelier, Barbara	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
774	Cecka, J. Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
3224	Chen, Dong-Feng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3632	Colombe, Beth W.	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
189	Crowe, Deborah	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8095	denHollander, Neal	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
705	Ellis, Thomas	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
3410	Ellison, Cynthia	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
2549	Fagoaga, Omar	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
234	Fernandez, Casian	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8053	Fernandez-Vina, M	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
762	Fischer, Gottfried	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
1778	Freed, Brian	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8047	Fuessel, Monika	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP NGS
8076	Gaitonde, Sujata	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
1647	Gautreaux, Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
124	Gizzarelli, Laila	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	NEG	NT	NT	SSP
8022	Hedlund, Anna	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
1694	Hesse, Nicole	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
4985	Hoover, Beverly	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
5000	Hsu, Susan H.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
2344	Hurley, Hartzman&	POS	POS	NEG	POS	B*00201	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSP SSO SBT
8093	Jindra, Peter	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8074	JunHe,	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8079	Kashi, Zahra M.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
4337	Kim, Tai-Gyu	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8084	Kimball, Pam	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8046	Kusnierczyk, Piotr	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSP
8071	Kwok, Janette	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
791	Lacelle, Chantale	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP

Table 5. KIR Exchange Sample: KDNA #156 (Hispanic/Caucasian)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS [72]	POS [72]	NEG [71]	POS [70]	POS[53]+ B[19]	POS [72]	POS [71]	POS [70]	NEG [71]	NEG [71]	POS [72]	POS [72]	POS[56] FULL,DEL[16]	NEG [72]	POS [70]	POS[59]+ FULL,DEL[10]	
278	Lee, Jar-How	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8088	Liu, Cong	POS	POS	NT	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	POS	POS	
8069	Maha, George	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
5142	Marsh, Steven	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8097	Meunier, Marie-Chr	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8080	Monos, Dimitrios	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8092	Morris, Gerald	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
8091	Murphey, Cathi	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
733	Mytilineos, Joannis	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8083	Nikaein, Afzal	POS	POS	NEG	POS	B	*001	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3966	Permpikul, Vejbaes	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
4021	Pollack, Marilyn S.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
8030	Poulton, Kay	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8050	Raja, Rajalingam	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
3753	Reed, Elaine F.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
3798	Reinsmoen, Nancy	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8090	Rossi, Angela	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP SSO
8060	Rost, Klein &	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8039	Scaff,Carolynn	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
4251	Schiller, Jennifer	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
1426	Senitzer, David	POS	POS	NEG	POS	B*002	*01502, *005	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	POS	SSP
8085	Shalini, Pereira	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
8077	Shanahan, Thomas	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	
702	Spannagl, Michael	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
3261	Stevens, Tait	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
3808	Thornton, Alycia	POS	POS	NEG	POS	B	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
5451	Tilanus, Marcel G.	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO
8024	Trowsdale, John	POS	POS	NEG	NT	POS	POS	NT	NT	NEG	NEG	POS	POS	WT, DEL	NEG	POS	FULL, DEL	SSP
8028	Uhrberg, Markus	POS	POS	NEG	NT	POS	POS	POS	NT	NEG	NEG	POS	POS	POS	NEG	NT	NT	SSP
8023	Vilches, Carlos	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	FULL, DEL	NEG	POS	FULL, DEL	SSP
5282	Yu, Neng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSP
1466	Yu, Neng	POS	POS	NEG	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	NEG	POS	POS	SSO

Table 6. Participating Centers

Name			City	State	Country	Name			City	State	Country
Ameen	Reem	Dr	Jabriya		Kuwait	Lacelle	Chantale	Ph.D.	Dallas	TX	
Arnold	Paula	PhD	Memphis	TN		Lardy	N.M.	Dr	Amsterdam		Netherlands
Askar	Medhat	Dr	Dallas	TX		Lee	Jar-How	Dr	Woodland Hills	CA	
Bengtsson	Mats	MD	Uppsala		Sweden	Liu	Cong	PhD	Grand Rapids	MI	
Bettinotti	Maria	PhD	Baltimore	MD		Maha	George	PhD	Burlington	NC	
Bittencourt	Vanessa Zaiatz		Dublin		Ireland	Marsh	Steven	Prof	London		United Kingdom
Cao	Kai	Dr	Houston	TX		Meunier	Marie-Christine	PhD	Montreal, Quebec		Canada
Carrington	Martin &	Drs	Frederick	MD		Monos	Dimitrios	PhD	Philadelphia	PA	
Cauwelier	Barbara	Dr	Brugge		Belgium	Morris	Gerald	MD, PhD	San Diego		
Cecka	J. Michael	PhD	Honolulu	HI		Murphey	Cathi	PhD	San Antonio	TX	
Chen	Dong-Feng	PhD	Durham	NC		Mytilineos	Joannis	MD	Ulm		Germany
Colombe	Beth W.	PhD	Philadelphia	PA		Nikaein	Afzal	PhD	Dallas	TX	
Crowe	Deborah	PhD	Nashville	TN		Permpikul	Vejbaesya &	Drs	Bangkok		Thailand
DeConinck	Martha		Stamford	CT		Pollack	Marilyn S.	PhD	Oakland	CA	
denHollander	Neal	Dr	Toronto, ON		Canada	Poulton	Kay		Manchester		United Kingdom
Ellis	Thomas	Dr	Madison	WI		Raja	Rajalingam	PhD	San Francisco	CA	
Ellison	Cynthia	PhD	Winnipeg, MB		Canada	Reed	Elaine F.	PhD	Los Angeles	CA	
Fagoaga	Omar	Dr	Detroit	MI		Reinsmoen	Nancy L.	PhD	Los Angeles	CA	
Fernandez	Casiana		Miami	FL		Roberts	Chrissy H.		London		United Kingdom
Fernandez-Vina	Marcelo	Dr	Palo Alto	CA		Rossi	Angela	Dr	Piacenza		Italy
Fischer	Gottfried	Dr	Vienna		Austria	Rost	Klein &	Drs	Martinsried		Germany
Freed	Brian	PhD	Aurora	CO		Scalf	Carolynn		Minneapolis	MN	
Fuessel	Monika	PhD	Dresden		Germany	Schiller	Jennifer	PhD	Milwaukee	WI	
Gaitonde	Sujata	Dr	Chicago	IL		Senitzer	David	PhD	Duarte	CA	
Gautreaux	Michael	Dr	Winston-Salem	NC		Shalini	Pereira		Seattle	WA	
Gizzarelli	Laila		Murdoch		Australia	Shanahan	Thomas C.	PhD	Buffalo	NY	
Hedlund	Anna		Stockholm		Sweden	Spannagl	Michael	Prof	Munich		Germany
Hesse	Nicole		Lich		Germany	Stevens	Tait	Dr	Loma Linda	CA	
Hoover	Beverly		St Louis	MO		Thornton	Alycia		Brisbane QLD		Australia
Hsu	Susan H.	PhD	Philadelphia	PA		Tilanus	Marcel G.J.	Prof Dr	Maastricht		Netherlands
Hurley	Hartzman&	Drs	Rockville	MD		Trowsdale	John	Prof	Cambridge		United Kingdom
Jindra	Peter	PhD	Houston	TX		Uhrberg	Markus	Dr	Dusseldorf		Germany
JunHe			Beijing		China	Vilches	Carlos	Dr	Majadahonda		Spain
Kanangat	Siva	PhD	Chicago	IL		Xu	Ri		BDA Beijing		China
Kashi	Zahra M.	Dr	Portland	OR		Yu	Neng	Dr	Dedham	MA	
Keming	Du		Shanghai		China	Yu	Neng	Dr	Worcester	MA	
Kim	Tai-Gyu	Prof	Seoul		S. Korea						
Kimball	Pam	Dr	Richmond	VA							
Kusnierczyk	Piotr	PhD	Wroclaw		Poland						
Kwok	Janette	Dr			Hong Kong						