

REPORT OF THE 43rd UCLA INTERNATIONAL KIR EXCHANGE

JULY 7, 2017

KIR 169-172

For the 43rd KIR Exchange, 4 DNA samples (KDNA#169 - 172) were shipped to 76 laboratories worldwide. KIR typing results were received from 73 of the laboratories.

The results for the 43rd 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 2DL5, 3DL1, 2DS1, 2DS4, and 3DP1 loci were reported by some laboratories. The subtypes for 2DS4 and 3DP1 are

denoted as FULL or DEL. Overall, good agreement was achieved among laboratories in the positive/negative assignments for all 4 DNA samples, as 10 of the 16 tested KIR loci (KIR2DL2, 2DL3, 2DL4, 3DL1, 3DL2, 3DL3, 2DS2, 2DS4, 2DS5, and 3DP1) were reported without discrepancy. Discrepant results from consensus 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 # 169:

The consensus KIR type for this sample from a Hispanic donor is KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4FULL-2DS5-2DP1-3DP1DEL. This sample was typed previously back in 2004 as KDNA#08. In this present retyping, the only discrepancy observed was for 3DS1, in which 2 labs reported it as negative instead of positive. Two labs provided haplotype predictions for this sample based on the absence and presence of genes. Hartzman and Hurley noted the predicted haplotypes as cA01/cA01 and tA01/tB01. Arnold reported the predicted haplotypes as A+AB. The genotype present in this sample is common across all populations, with the highest frequencies observed among the Purepecha (30.2%) and Tarahumara (41.5%) tribes (1, 2) of Mexico.

KIR Exchange Sample: KDNA # 170:

The consensus KIR type for this sample from an African American donor is KIR2DL1-2DL2-2DL3-2DL4-2DL5B-3DL1-3DL2-3DL3-2DS2-2DS4DEL-2DS5-2DP1-3DP1DEL. Only 2 discrepancies were reported for this sample, as 1 lab reported 3DS1 and 2DS1 as positive instead of negative. Predicted haplotypes provided by Hartzman and Hurley were cA01/cB01 and tA01/tA01. The genotype in this sample is observed in African Americans (3.5%), as well as in Caucasian Americans (1%), and Japanese (2.5%) (3, 4). It is absent in Asian Indian, Southeast Asian, and American Native populations.

KIR Exchange Sample: KDNA # 171:

The consensus KIR type for this sample from donor of mixed Hispanic and Caucasian heritage is KIR2DL1-2DL2-2DL3-2DL4-3DL1-3DL2-3DL3-2DS2-2DS4FULL&DEL-2DP1-3DP1FULL&DEL. A number of discrepancies (n=4) was reported for this sample. One lab reported 2DL5 as positive, while another lab reported 2DL1 as negative and 3DS1, 2DS1, and 2DS3 as positive. Hartzman and Hurley reported the predicted haplotypes in this sample as cA01/cB02 and tA01/tA01. Along the same lines, Arnold predict A+BA1 haplotypes as being present. The genotype in this sample is observed across all populations. Among American and Northern Irish Caucasians, it is observed at a frequency of 12% (3). Among Mexican Mestizo populations, it occurs at a frequency of 12.8% (5).

KIR Exchange Sample: KDNA # 172:

The consensus KIR type for this sample from an African American donor is KIR2DL1-2DL3-2DL4-2DL5A-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4DEL-2DS5-2DP1-3DP1DEL. One lab reported 3DS1, 2DS1, and 2DP1 as negative instead of positive. In addition, it reported 2DS3 as positive instead of negative. Hartzman and Hurley predict cA01/cA01 and tA01/tB01 haplotypes to be present in this sample. Similarly, Arnold reported the predicted haplotypes as A+AB. The genotype in this sample is observed in African Americans at a frequency of 5.2% (3). It is also observed in other populations, including the Native American Bari, 26.3%, and Caucasian Hispanics, 15.4% (3, 5).

References:

1. Yawata, M., Yawata, N., Abi-Rached, L., et al. Variation within the human killer cell immunoglobulin-like receptor (KIR) gene family. *Crit Rev Immunol* 2002;22:463-482.
2. Gutierrez-Rodriguez ME, Sandoval-Ramirez L, Diaz-Flores M, et al. Human KIR Gene in Ethnic and Mestizo Populations from Mexico. *Human Immunology* 2006;67:85-93.
3. 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.
4. 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.
5. Gendzekhadze K., Norman PJ, Abi-Rached L, et al. High KIR diversity in Amerindians is maintained using few gene-content haplotypes. *Immunogenetics* 2006;58:474-480.

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Table 1. Summary of the 43rd KIR Exchange (KDNA #169-172)

KIR Ex.	DNA	# Labs	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1
#43	169	73	POS[73]	NEG[73]	POS[73]	POS[71] NT[2]	POS[58] A[13] A*00101[1] A,B[1]	POS[72] *001[1]	POS[72] NT[1]	POS[71] NT[2]	POS[71] <i>NEG[2]</i>	POS[71] *002[1] *002-*008[1]	NEG[73]	NEG[73]	POS[48] FULL[24] *001[1]	POS[73]	POS[71] NT[2]	POS[53] DEL[16] *001[1] NT[3]
	170	73	POS[73]	POS[73]	POS[73]	POS[71] NT[2]	POS[58] B[14] B*00801[1]	POS[73]	POS[72] NT[1]	POS[71] NT[2]	NEG[72] <i>POS[1]</i>	NEG[72] <i>POS[1]</i>	POS[73]	NEG[73]	POS[48] DEL[22] *003[1] FULL,DEL[1] FULL[1]	POS[73]	POS[71] NT[2]	POS[53] DEL[16] *003[1] NT[3]
	171	73	POS[72] <i>NEG[1]</i>	POS[73]	POS[73]	POS[71] NT[2]	NEG[72] <i>POS[1]</i>	POS[72] *001[1]	POS[72] NT[1]	POS[71] NT[2]	NEG[72] <i>POS[1]</i>	NEG[72] <i>POS[1]</i>	POS[73]	NEG[72] <i>POS[1]</i>	POS[57] FULL,DEL[15] DEL[1]	NEG[72] NT[1]	POS[71] NT[2]	POS[60] FULL,DEL[10] NT[3]
	172	73	POS[73]	NEG[73]	POS[73]	POS[71] NT[2]	POS[57] A[13] A*00101[1] B[3]	POS[72] *001[1]	POS[72] NT[1]	POS[71] NT[2]	POS[72] <i>NEG[1]</i>	POS[70] *002[1] *002-*008[1] <i>NEG[1]</i>	NEG[73]	NEG[72] <i>POS[1]</i>	POS[48] DEL[24] *003[1]	POS[73]	POS[70] <i>NEG[1]</i> NT[2]	POS[54] DEL[16] 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
 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. KIR Exchange Sample: KDNA #169 (Hispanic)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	NEG[73]	POS[73]	POS[71]	POS[58] +A[14]	POS[73]	POS[72]	POS[71]	POS[71]	POS[73]	NEG[73]	NEG[73]	POS[49]+ FULL[24]	POS[73]	POS[71]	POS[54]+ DEL[16]	
8094	Ameen, Reem	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5462	Arnold, Paula	POS	NEG	POS	POS	A	POS	POS	POS	POS	*002- *008	NEG	NEG	FULL	POS	POS	DEL	SSP
5133	Askar, Medhat	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	NGS RT-PCR
8073	Bengtsson, Mats	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	
713	Bettinotti, Maria	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8026	Bittencourt, Vane	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NEG	NEG	POS	POS	POS	POS	SSP
8038	Cao, Kai	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
8025	Carrington, Marti	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	NT	SSP
1461	Cauwelier, Barba	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
774	Cecka, J. Michael	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3224	Chen, Dong-Feng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
3632	Colombe, Beth W	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	
189	Crowe, Deborah	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
8095	denHollander, Ne	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	POS	NEG	NEG	POS	POS	POS	POS	SSO
124	D'Orsogna, Lloyd	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
8086	Du, Keming	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
705	Ellis, Thomas	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3410	Ellison, Cynthia	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
2549	Fagoaga, Omar	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
234	Fernandez, Casid	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8053	Fernandez-Vina,	POS	NEG	POS	POS	A, B	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSO RT-PCR
762	Fischer, Gottfried	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
1778	Freed, Brian M.	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
8047	Fuessel, Monika	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8076	Gaitonde , Sujata	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
1647	Gautreaux, Micha	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
1108	Glaser, Chris	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSO
4985	Graff, Ralph J.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8022	Hedlund, Anna	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
1694	Hesse, Nicole	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
3808	Hogan, Patrick	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	
5000	Hsu, Susan H.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
2344	Hurley & Hartzma	POS	NEG	POS	POS	A*00101	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSP SBT
8093	Jindra, Peter	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8074	JunHe,	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8079	Kashi, Zahra M.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5488	Khuu, Hanh	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
4337	Kim, Tai-Gyu	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8084	Kimball, Pam	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR

Table 2. KIR Exchange Sample: KDNA #169 (Hispanic)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	NEG[73]	POS[73]	POS[71]	POS[58] +A[14]	POS[73]	POS[72]	POS[71]	POS[71]	POS[73]	NEG[73]	NEG[73]	POS[49]+ FULL[24]	POS[73]	POS[71]	POS[54]+ DEL[16]	
8046	Kusnierczyk, Piotr	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	SSP
8071	Kwok, Janette	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
725	Lardy, N.M.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
278	Lee, Jar-How	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
2400	Liu, Chang	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8088	Liu, Cong	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8069	Maha, George	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
5142	Marsh, Steven	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8097	Meunier, Marie-C	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8080	Monos, Dimitrios	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8092	Morris, Gerald	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
8091	Murphey, Cathi	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
733	Mytilineos, Joann	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP NGS
8083	Nikaein, Afzal	POS	NEG	POS	POS	A	*001	POS	POS	POS	*002	NEG	NEG	*001	POS	POS	*001	SSP
3966	Permpikul, Vejba	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
4021	Pollack, Marilyn S	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8030	Poulton, Kay	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8050	Raja, Rajalingam	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
3753	Reed, Elaine F.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
3798	Reinsmoen, Nan	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8090	Rossi, Angela	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
8060	Rost, Klein &	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
4251	Schiller, Jennifer	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO RT-PCR
8101	Seidl, Christian	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP
1426	Senitzer, David	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	DEL	SSP RT-PCR
8085	Shalini, Pereira	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
3261	Stevens, Tait	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5451	Tilanus, Marcel G	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8024	Trowsdale, John	POS	NEG	POS	NT	POS	POS	NT	NT	POS	POS	NEG	NEG	WT	POS	POS	DEL	SSP
8028	Uhrberg, Markus	POS	NEG	POS	NT	POS	POS	POS	NT	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
8098	Xu, Ri	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	FULL	POS	POS	POS	
5282	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
1466	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP

Table 3. KIR Exchange Sample: KDNA #170 (Black)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	POS[73]	POS[73]	POS[71]	POS[58]+ B[15]	POS[73]	POS[72]	POS[71]	NEG[72]	NEG[72]	POS[73]	NEG[73]	POS[49]+ DEL[22]	POS[73]	POS[71]	POS[54]+ DEL[16]	
8094	Ameen, Reem	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
5462	Arnold, Paula	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
5133	Askar, Medhat	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	NGS RT-PCR
8073	Bengtsson, Mats	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	
713	Bettinotti, Maria	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8026	Bittencourt, Vane	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	POS	NEG	POS	POS	POS	POS	SSP
8038	Cao, Kai	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DELL	POS	POS	POS	SSO
8025	Carrington, Martin	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	NT	SSP
1461	Cauwelier, Barbara	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	SSO
774	Cecka, J. Michael	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3224	Chen, Dong-Feng	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
3632	Colombe, Beth V	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	
189	Crowe, Deborah	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8095	denHollander, Ne	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
124	D'Orsogna, Lloyd	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	NT	NT	SSP
8086	Du, Keming	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
705	Ellis, Thomas	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
3410	Ellison, Cynthia	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
2549	Fagoaga, Omar	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
234	Fernandez, Casid	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8053	Fernandez-Vina,	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	FULL	POS	POS	DEL	SSO RT-PCR
762	Fischer, Gottfried	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
1778	Freed, Brian M.	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
8047	Fuessel, Monika	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8076	Gaitonde , Sujata	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
1647	Gautreaux, Micha	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
1108	Glaser, Chris	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	SSO
4985	Graff, Ralph J.	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8022	Hedlund, Anna	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
1694	Hesse, Nicole	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
3808	Hogan, Patrick	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	
5000	Hsu, Susan H.	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
2344	Hurley & Hartzma	POS	POS	POS	POS	B*00801	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	SSP SBT
8093	Jindra, Peter	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8074	JunHe,	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8079	Kashi, Zahra M.	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
5488	Khuu, Hanh	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
4337	Kim, Tai-Gyu	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8084	Kimball, Pam	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	RT-PCR
8046	Kusnierczyk, Piot	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	SSP
8071	Kwok, Janette	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO

Table 3. KIR Exchange Sample: KDNA #170 (Black)

CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	POS[73]	POS[73]	POS[71]	POS[58]+ B[15]	POS[73]	POS[72]	POS[71]	NEG[72]	NEG[72]	POS[73]	NEG[73]	POS[49]+ DEL[22]	POS[73]	POS[71]	POS[54]+ DEL[16]	
725	Lardy, N.M.	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
278	Lee, Jar-How	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
2400	Liu, Chang	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8088	Liu, Cong	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8069	Maha, George	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
5142	Marsh, Steven	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8097	Meunier, Marie-C	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8080	Monos, Dimitrios	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8092	Morris, Gerald	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	
8091	Murphey, Cathi	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
733	Mytilineos, Joann	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP NGS
8083	Nikaein, Afzal	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	*003	POS	POS	*003	SSP
3966	Permpikul, Vejba	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
4021	Pollack, Marilyn S	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
8030	Poulton, Kay	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8050	Raja, Rajalingam	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
3753	Reed, Elaine F.	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
3798	Reinsmoen, Nan	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8090	Rossi, Angela	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP SSO
8060	Rost, Klein &	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
4251	Schiller, Jennifer	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO RT-PCR
8101	Seidl, Christian	POS	POS	POS	POS	B	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
1426	Senitzer, David	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP RT-PCR
8085	Shalini, Pereira	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	NGS
3261	Stevens, Tait	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
5451	Tilanus, Marcel G	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSO
8024	Trowsdale, John	POS	POS	POS	NT	POS	POS	NT	NT	NEG	NEG	POS	NEG	DEL	POS	POS	DEL	SSP
8028	Uhrberg, Markus	POS	POS	POS	NT	POS	POS	POS	NT	NEG	NEG	POS	NEG	POS	POS	NT	NT	SSP
8098	Xu, Ri	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	DEL	POS	POS	POS	
1466	Yu, Neng	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP
5282	Yu, Neng	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	POS	POS	POS	SSP

Table 4. KIR Exchange Sample: KDNA #171 (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[73]	POS[73]	POS[71]	NEG[72]	POS[73]	POS[72]	POS[71]	NEG[72]	NEG[72]	POS[73]	NEG[72]	POS[57]+ FULL,DEL[15]	NEG[72]	POS[71]	POS[61]+ FULL,DEL[9]	
8094	Ameen, Reem	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
5462	Arnold, Paula	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	SSP
5133	Askar, Medhat	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	NGS RT-PCR
8073	Bengtsson, Mats	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	
713	Bettinotti, Maria	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8026	Bittencourt, Vane	NEG	POS	POS	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NT	POS	POS	SSP
8038	Cao, Kai	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	POS	SSO
8025	Carrington, Marti	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	NT	SSP
1461	Cauwelier, Barba	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
774	Cecka, J. Michael	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
3224	Chen, Dong-Fen	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP SSO
3632	Colombe, Beth V	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	
189	Crowe, Deborah	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP SSO
8095	denHollander, Ne	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
124	D'Orsogna, Lloyd	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
8086	Du, Keming	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
705	Ellis, Thomas	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
3410	Ellison, Cynthia	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
2549	Fagoaga, Omar	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
234	Fernandez, Casia	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8053	Fernandez-Vina,	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO RT-PCR
762	Fischer, Gottfried	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
1778	Freed, Brian M.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8047	Fuessel, Monika	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8076	Gaitonde , Sujata	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	
1647	Gautreaux, Micha	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	
1108	Glaser, Chris	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	POS	SSO
4985	Graff, Ralph J.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8022	Hedlund, Anna	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	SSP
1694	Hesse, Nicole	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
3808	Hogan, Patrick	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	
5000	Hsu, Susan H.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP SSO
2344	Hurley & Hartzma	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	POS	SSP SBT
8093	Jindra, Peter	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8074	JunHe,	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8079	Kashi, Zahra M.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
5488	Khuu, Hanh	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
4337	Kim, Tai-Gyu	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8084	Kimball, Pam	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	RT-PCR
8046	Kusnierczyk, Piot	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	POS	SSP
8071	Kwok, Janette	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
725	Lardy, N.M.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
278	Lee, Jar-How	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	
2400	Liu, Chang	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP

Table 4. KIR Exchange Sample: KDNA #171 (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[73]	POS[73]	POS[71]	NEG[72]	POS[73]	POS[72]	POS[71]	NEG[72]	NEG[72]	POS[73]	NEG[72]	POS[57]+ FULL,DEL[15]	NEG[72]	POS[71]	POS[61]+ FULL,DEL[9]	
8088	Liu, Cong	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8069	Maha, George	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	SSP
5142	Marsh, Steven	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8097	Meunier, Marie-C	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8080	Monos, Dimitrios	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8092	Morris, Gerald	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	
8091	Murphey, Cathi	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
733	Mytilineos, Joanr	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP NGS
8083	Nikaein, Afzal	POS	POS	POS	POS	NEG	*001	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
3966	Permpikul, Vejba	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
4021	Pollack, Marilyn S	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
8030	Poulton, Kay	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8050	Raja, Rajalingam	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	SSP
3753	Reed, Elaine F.	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP SSO
3798	Reinsmoen, Nan	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8090	Rossi, Angela	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP SSO
8060	Rost, Klein &	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
4251	Schiller, Jennifer	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO RT-PCR
8101	Seidl, Christian	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
1426	Senitzer, David	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	FULL, DEL	NEG	POS	FULL, DEL	SSP RT-PCR
8085	Shalini, Pereira	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	NGS
3261	Stevens, Tait	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
5451	Tilanus, Marcel C	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSO
8024	Trowsdale, John	POS	POS	POS	NT	NEG	POS	NT	NT	NEG	NEG	POS	NEG	WT, DEL	NEG	POS	FULL, DEL	SSP
8028	Uhrberg, Markus	POS	POS	POS	NT	NEG	POS	POS	NT	NEG	NEG	POS	NEG	POS	NEG	NT	NT	SSP
8098	Xu, Ri	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	DEL	NEG	POS	POS	
5282	Yu, Neng	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP
1466	Yu, Neng	POS	POS	POS	POS	NEG	POS	POS	POS	NEG	NEG	POS	NEG	POS	NEG	POS	POS	SSP

Table 5. KIR Exchange Sample: KDNA #172 (Black)																		
CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	NEG[73]	POS[73]	POS[71]	POS[57] +A[14]	POS[73]	POS[72]	POS[71]	POS[72]	POS[72]	NEG[73]	NEG[72]	POS[49]+ DEL[24]	POS[73]	POS[70]	POS[55]+ DEL[15]	
8094	Ameen, Reem	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5462	Arnold, Paula	POS	NEG	POS	POS	A	POS	POS	POS	POS	*002- *008	NEG	NEG	DEL	POS	POS	DEL	SSP
5133	Askar, Medhat	POS	NEG	POS	POS	B	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	NGS RT-PCR
8073	Bengtsson, Mats	POS	NEG	POS	POS	B	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	
713	Bettinotti, Maria	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8026	Bittencourt, Vane	POS	NEG	POS	POS	POS	POS	POS	POS	NEG	NEG	NEG	POS	POS	POS	NEG	POS	SSP
8038	Cao, Kai	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSO
8025	Carrington, Martin	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	NT	SSP
1461	Cauwelier, Barbara	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSO
774	Cecka, J. Michael	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3224	Chen, Dong-Feng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
3632	Colombe, Beth W	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	
189	Crowe, Deborah	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
8095	denHollander, Ne	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
124	D'Orsogna, Lloyd	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
8086	Du, Keming	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
705	Ellis, Thomas	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
3410	Ellison, Cynthia	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
2549	Fagoaga, Omar	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
234	Fernandez, Casia	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8053	Fernandez-Vina,	POS	NEG	POS	POS	B	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSO RT-PCR
762	Fischer, Gottfried	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
1778	Freed, Brian M.	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
8047	Fuessel, Monika	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8076	Gaitonde, Sujata	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
1647	Gautreaux, Micha	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
1108	Glaser, Chris	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSO
4985	Graff, Ralph J.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8022	Hedlund, Anna	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
1694	Hesse, Nicole	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
3808	Hogan, Patrick	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	
5000	Hsu, Susan H.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
2344	Hurley & Hartzma	POS	NEG	POS	POS	A*00101	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSP SBT
8093	Jindra, Peter	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8074	JunHe,	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSP SSO
8035	Kanangat, Siva	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8079	Kashi, Zahra M.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5488	Khuu, Hanh	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
4337	Kim, Tai-Gyu	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8084	Kimball, Pam	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	RT-PCR
8046	Kusnierczyk, Piot	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	SSP
8071	Kwok, Janette	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO

Table 5. KIR Exchange Sample: KDNA #172 (Black)																		
CTR	Investigator	2DL1	2DL2	2DL3	2DL4	2DL5	3DL1	3DL2	3DL3	3DS1	2DS1	2DS2	2DS3	2DS4	2DS5	2DP1	3DP1	Method
	Consensus	POS[73]	NEG[73]	POS[73]	POS[71]	POS[57] +A[14]	POS[73]	POS[72]	POS[71]	POS[72]	POS[72]	NEG[73]	NEG[72]	POS[49]+ DEL[24]	POS[73]	POS[70]	POS[55]+ DEL[15]	
725	Lardy, N.M.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
278	Lee, Jar-How	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
2400	Liu, Chang	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8088	Liu, Cong	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8069	Maha, George	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
5142	Marsh, Steven	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8097	Meunier, Marie-C	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8080	Monos, Dimitrios	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8092	Morris, Gerald	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	
8091	Murphey, Cathi	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
733	Mytilineos, Joann	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP NGS
8083	Nikaein, Afzal	POS	NEG	POS	POS	A	*001	POS	POS	POS	*002	NEG	NEG	*003	POS	POS	POS	SSP
3966	Permpikul, Vejba	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
4021	Pollack, Marilyn S	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
8030	Poulton, Kay	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8050	Raja, Rajalingam	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
3753	Reed, Elaine F.	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
3798	Reinsmoen, Nan	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8090	Rossi, Angela	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP SSO
8060	Rost, Klein &	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
4251	Schiller, Jennifer	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO RT-PCR
8101	Seidl, Christian	POS	NEG	POS	POS	A	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
1426	Senitzer, David	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP RT-PCR
8085	Shalini, Pereira	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	NGS
3261	Stevens, Tait	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
5451	Tilanus, Marcel G	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSO
8024	Trowsdale, John	POS	NEG	POS	NT	POS	POS	NT	NT	POS	POS	NEG	NEG	DEL	POS	POS	DEL	SSP
8028	Uhrberg, Markus	POS	NEG	POS	NT	POS	POS	POS	NT	POS	POS	NEG	NEG	POS	POS	NT	NT	SSP
8098	Xu, Ri	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	DEL	POS	POS	POS	
1466	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP
5282	Yu, Neng	POS	NEG	POS	POS	POS	POS	POS	POS	POS	POS	NEG	NEG	POS	POS	POS	POS	SSP

Table 6. Participating Centers

Name			City	State	Country	Name			City	State	Country
Ameen	Reem	Dr	Jabriya		Kuwait	Kim	Tai-Gyu	Prof	Seoul		S. Korea
Arnold	Paula	PhD	Memphis	TN		Kimball	Pam	Dr	Richmond	VA	
Askar	Medhat	Dr	Dallas	TX		Kusnierczyk	Piotr	PhD	Wroclaw		Poland
Bengtsson	Mats	MD	Uppsala		Sweden	Kwok	Janette	Dr			Hong Kong
Bettinotti	Maria	PhD	Baltimore	MD		Lardy	N.M.	Dr	Amsterdam		Netherlands
Bittencourt	Vanessa Zaiatz		Dublin		Ireland	Lee	Jar-How	Dr	Woodland Hills	CA	
Cao	Kai	Dr	Houston	TX		Liu	Chang	MD, PhD	St Louis	MO	
Carrington	Martin &	Drs	Frederick	MD		Liu	Cong	PhD	Grand Rapids	MI	
Cauwelier	Barbara	Dr	Brugge		Belgium	Maha	George	PhD	Burlington	NC	
Cecka	J. Michael	PhD	Honolulu	HI		Marsh	Steven	Prof	London		United Kingdom
Chen	Dong-Feng	PhD	Durham	NC		Meunier	Marie-Christine	PhD	Montreal, Quebec		Canada
Colombe	Beth W.	PhD	Philadelphia	PA		Monos	Dimitrios	PhD	Philadelphia	PA	
Crowe	Deborah	PhD	Nashville	TN		Morris	Gerald	MD, PhD	San Diego		
denHollander	Neal	Dr	Toronto, ON		Canada	Murphey	Cathi	PhD	San Antonio	TX	
D'Orsogna	Lloyd	Dr	Murdoch		Australia	Mytilineos	Joannis	MD	Ulm		Germany
Du	Keming		Shanghai		China	Nikaein	Afzal	PhD	Dallas	TX	
Ellis	Thomas	Dr	Madison	WI		Permpikul	Vejbasesya &	Drs	Bangkok		Thailand
Ellison	Cynthia	PhD	Winnipeg, MB		Canada	Pollack	Marilyn S.	PhD	Oakland	CA	
Fagoaga	Omar	Dr	Detroit	MI		Poulton	Kay	Dr	Manchester		United Kingdom
Fernandez	Casiana		Miami	FL		Raja	Rajalingam	PhD	San Francisco	CA	
Fernandez-Vina	Marcelo	Dr	Palo Alto	CA		Reed	Elaine F.	PhD	Los Angeles	CA	
Fischer	Gottfried	Dr	Vienna		Austria	Reinsmoen	Nancy L.	PhD	Los Angeles	CA	
Freed	Brian	PhD	Aurora	CO		Roberts	Chrissy H.		London		United Kingdom
Fuessel	Monika	PhD	Dresden		Germany	Rombola	Giovanni	Dr	Firenze		Italy
Gaitonde	Sujata	Dr	Chicago	IL		Rossi	Angela	Dr	Piacenza		Italy
Gautreaux	Michael	Dr	Winston-Salem	NC		Rost	Klein &	Drs	Martinsried		Germany
Glaser	Chris		Waukesha	WI		Schiller	Jennifer	PhD	Milwaukee	WI	
Graff	Ralph J	Dr	St Louis	MO		Seidl	Christian	Prof Dr	Frankfurt		Germany
Hedlund	Anna		Stockholm		Sweden	Senitzer	David	PhD	Duarte	CA	
Hesse	Nicole		Lich		Germany	Shalini	Pereira		Seattle	WA	
Hogan	patrick	Dr	Brisbane QLD		Australia	Stevens	Tait	Dr	Loma Linda	CA	
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	
Khuu	Hanh	Dr	Bethesda	MD		Yu	Neng	Dr	Worcester	MA	