

REPORT OF THE 13TH UCLA INTERNATIONAL KIR EXCHANGE

AUGUST 8, 2007

KIR

49-52

Dear Colleagues:

For the 13th KIR Exchange, 4 DNA samples (KDNA#49-52) were shipped to each laboratory on May 9, 2007. Fifty-three laboratories submitted their KIR typing results. The majority of the laboratories used commercial or in-house developed sequence-specific primer (SSP) based PCR typing systems, and the remaining laboratories used either a sequence-specific oligonucleotide probing (SSOP) method, or a multiplexed SSP method, or the MALDI-TOF/SNP assay. The majority of the laboratories performed subtyping for 2DL5, 2DS4, and 3DP1.

The results for the 13th KIR Exchange are summarized in Table 1 and individual laboratory results reported for each DNA sample are provided in Tables 2-5. Some laboratories reported discrepant results for the presence or absence of KIR2DL2, 2DL3, 2DL4, 2DL5, 3DL3, 3DS1, 2DS1, 2DS2, 2DS3 and 2DP1 genes. Discrepant results from the consensus typing are italicized in the listing of results (Tables 2-5), and described in the summation for each sample.

Discrepancies at the allele level are not italicized. We encourage the participating laboratories to resolve the discrepancies so that the information can be shared to develop reliable KIR typing systems.

We thank you for your active participation in this program.

Best regards,

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Correction: For KIR Exchange sample KDNA#47, in the Report of the 12th UCLA International KIR Exchange, the description should read: Two laboratories reported this DNA as negative for 2DL2 and another two laboratories reported it as **positive** for 2DS1.

We apologize for any confusion .

KIR Exchange Sample: KDNA # 0049:

This DNA was isolated from an Hispanic donor. This individual carried all known 17 KIR genes. However, two laboratories reported that this DNA was negative for the 2DL2 gene and another two laboratories reported it as negative for the 2DL5A gene. This is a common KIR genotype found in Asian Indians, occurring at a frequency up to 23% (Rajalingam et al. unpublished results). Nearly 5% of Caucasians carry this genotype whereas it occurs rarely in Chinese, Japanese and Africans (1). Previously typed KDNA#26 sample comprised similar KIR gene content.

KIR Exchange Sample: KDNA # 0050:

KDNA#50 was obtained from a Black individual. The consensus KIR type is: 2DL1-2DL2-2DL3-2DL4-3DL1-3DL2-3DL3-2DS2-2DS4-2DP1-3DP1. This is a rare genotype reported only in Basque population (2). One laboratory reported that this DNA carried the 3DS1 gene, and another one reported it to be positive for the 2DS1 gene. The genotype was similar to the one typed in a previous sample, KDNA#37.

KIR Exchange Sample: KDNA # 0051:

The ethnic origin of this sample donor is unknown. The consensus KIR type is: 2DL1-2DL3-2DL4-2DL5-3DL1-3DL2-3DL3-3DS1-2DS1-2DS3-2DS4-2DP1-3DP1. This KIR genotype occurs commonly in Pacific Islands populations with a frequency of 8-12% (3). One laboratory typed this DNA as positive for 2DL2 and another one laboratory reported this DNA as negative for both 2DL4 and 2DS3. This same KIR genotype was previously typed in KDNA#44.

KIR Exchange Sample: KDNA # 0052:

The ethnic origin of this DNA donor is Asian. The consensus KIR type is: 2DL1-2DL3-2DL4-2DL5-3DL1-3DL2-3DL3-3DS1-2DS1-2DS4-2DS5-2DP1-3DP1. This is the second most common KIR genotype observed in most populations (1). One or two laboratories reported discrepant results for 7 of these loci: 2DL3, 2DL5, 3DL3, 3DS1, 2DS2, 2DS3 and 2DP1. This DNA was previously typed as KDNA#01 by 12 laboratories in the first KIR Exchange in 2004. All 12 laboratories were in complete agreement for the KIR genotype, with the exception of one laboratory that reported it as 2DL5-negative. The increased number of participating laboratories, from 12 to 53, may account for the increased level of discrepancy observed in this present retyping exercise.

References

1. Yawata, M., Yawata, N., Abi-Rached, L., and Parham, P. (2002). Variation within the human killer cell immunoglobulin-like receptor (KIR) gene family. *Crit Rev Immunol* 22, 463-482.
2. Santin, I., de Nanclares, G. P., Calvo, B., Gaafar, A., Castano, L., and Bilbao, J. R. (2006). Killer cell immunoglobulin-like receptor (KIR) genes in the Basque population: association study of KIR gene contents with type 1 diabetes mellitus. *Hum Immunol* 67, 118-124.
3. Velickovic, M., Velickovic, Z., and Dunckley, H. (2006). Diversity of killer cell immunoglobulin-like receptor genes in Pacific Islands populations. *Immunogenetics* 58, 523-532.

