Report of the 3rd UCLA International MICA Exchange

February 6, 2008

MICA 9-12

We thank the laboratories that participated in the third UCLA International MICA Exchange pilot survey. Four DNA samples were shipped to eight laboratories actively involved in MICA genotyping studies. Five laboratories used a Luminex-based sequence-specific oligonucleotide probes hybridization method (SSOP), two laboratories used in-house developed direct DNA sequencing methods, and the remaining laboratory used in-house SSP typing methods. The two laboratories that used sequencing methods reported the number of GCT-triplet repeats in exon 5.

We encourage the participating laboratories to resolve the discrepancies so that the information can be shared to improve the reliability and resolution of MICA typing systems.

Thanks again for your participation in this important program.

Best regards,

Marie Lau, Arlene Locke, Qiuheng Zhang, Raja Rajalingam, Michael Cecka, and Elaine F. Reed

MICA exchange sample: MICA#009

MICA*001 was assigned by 87.5% of the laboratories for this sample from an Hispanic donor. MICA*001 differs from MICA*00702 at positions 24 (exon 2) and 125 (exon 3), where MICA*001 has threonine and lysine whereas MICA*00702 has alanine and glutamic acid. The allele frequency of MICA*001 is less than 5% in all populations studied.

MICA*008 was assigned by 87.5% of the laboratories. MICA*008 belongs to the A5.1 group with a G insertion after the second GCT repeats which results in a stop codon at position 304. MICA*008 is reported to be aberrantly transported to the apical cell surface. One laboratory assigned MICA*008/004. MICA*008 differs from MICA*004 at positions 122 and 175 (exon 3), and at positions 213 and 251 (exon 4). MICA*008 is the most common allele with allele frequencies of 55% and 42.6% in different studies.

MICA exchange sample: MICA#010

Three laboratories assigned MICA*009 for this DNA from an Hispanic individual, while the remaining five laboratories assigned MICA*009/049. MICA*009 is identical to MICA*049 except for at position 332 (exon 6) in the transmembrane domain, where MICA*009 has threonine while MICA*049 has a methionine. The MICA*009 allele frequency is less than 10% in Caucasian and African American populations; however, the allele frequencies for MICA*009 in Japanese and Korean populations are 18.4% and 10.6%, respectively.

MICA*010 was assigned by 62.5% of the laboratories. MICA*010 differs from other MICA alleles at codon 6 where arginine is replaced by proline, resulting in the loss of its cell surface expression. Three laboratories reported MICA*016/19 by SSOP methods. MICA*010 and MICA*019 differ from MICA*016 at alpha 3 chain at position 221 (exon 4), where valine in MICA*010 is replaced by leucine in MICA*016. MICA*010 is relatively common in Caucasians and Asians but not in African Americans.

MICA exchange sample: MICA#011

MICA*002 was assigned by 62.5% of the laboratories for this Hispanic sample. MICA*002, MICA*020, and MICA*052 are identical in extra cellular domains, but differ in their transmembrane domain. MICA*002 is common in African American, Caucasian, and Asian populations.

MICA*004 was assigned by all laboratories. MICA*004 has 6 GCT repeats at exon 5. MICA*004 is commonly found and has been shown to have a strong association with HLA-B*44 in African American, Caucasian, and Asian populations.

MICA exchange sample: MICA#012

This DNA was derived from a Caucasian donor. MICA*008 was assigned by all of the laboratories.

MICA*017 was assigned by 87.5% of the laboratories. MICA*017 is the only allele with an arginine at position 91 (exon 3) while the remaining alleles have a glutamine. MICA*017 also differs from MICA*002 at the 3' end of exon 4 where MICA*017 has a guanine deletion at the beginning of exon 5, resulting in a large polylysine repeat. The MICA*017 allele frequency is around 5% in African American and Caucasian populations but less commonly found in Asian populations.

	MICA#009	***Hispanic***			
CTR	**Investigator Name**	**MICA**	**MICA***	**OTHERS**	**METHOD**
8050	Baxter-Lowe,Lee-	*001	*008		RVSSO
3625	Darke,Christophe	*001	*00801		SSP
713	Jackson,Annette	*001	*008		RVSSO
278	Lee,Jar-How	*001	*00801/04		RVSSO
5142	Little,Ann-Margar	*00702	*008	*00702/A6, *008/A5.1	SBT ex2-5
8049	Lopez-Larrea,Car	*001	*00801		RVSSO
3753	Reed,Elaine	*001	*008		RVSSO
791	Stastny,Peter	*001	*00801	*001/A4, *00801/A5.1	SBT
	MICA#010	***Hispanic***			
CTR	**Investigator Name**	**MICA**	**MICA***	**OTHERS**	**METHOD**
8050	Baxter-Lowe,Lee-	*009/*049	*016/*019		RVSSO
3625	Darke,Christophe	*00901	*010		SSP
713	Jackson,Annette	*009	*010	*049	RVSSO
278	Lee,Jar-How	*009/*049	*016/*019		RVSSO
5142	Little,Ann-Margar	*00901/*049	*010	*00901/*049/A6, *010/A5	SBT ex2-5
8049	Lopez-Larrea,Car	*00901/*049	*016/*019		RVSSO
3753	Reed,Elaine	*009/*049	*010		RVSSO
791	Stastny,Peter	*00901	*010	*00901/A6, *010/A5, *049/A6	SBT
	MICA#011	***Hispanic***			
CTR	**Investigator Name**	**MICA**	**MICA***	**OTHERS**	**METHOD**
8050	Baxter-Lowe,Lee-	*002/*020	*004		RVSSO
3625	Darke,Christophe	*00201/*020/*052	*004		SSP
713	Jackson,Annette	*002	*004	*020	RVSSO
278	Lee,Jar-How	*002/*020	*004		RVSSO
5142	Little,Ann-Margar	*00201	*004	*00201/A9, *004/A6	SBT ex2-5
8049	Lopez-Larrea,Car	*00201	*004		RVSSO
3753	Reed,Elaine	*002/*020	*004		RVSSO
791	Stastny,Peter	*00201	*004	*00201/A9, *004/A6	SBT
	MICA#012	***Caucasian***			
CTR	**Investigator Name**	**MICA**	**MICA***	**OTHERS**	**METHOD**
8050	Baxter-Lowe,Lee-	*008	*017		RVSSO
3625	Darke,Christophe	*00801	*017		SSP
713	Jackson,Annette	*008	*017		RVSSO
278	Lee,Jar-How	*008	*017		RVSSO
5142	Little,Ann-Margar	*008	*00201	*008/A5.1, *00201/A9	SBT ex2-5
8049	Lopez-Larrea,Car	*00801	*017		RVSSO
3753	Reed,Elaine	*008	*017		RVSSO
791	Stastny,Peter	*00801	*017	*00801/A5.1, *017/A9	SBT