REPORT OF THE 20th UCLA INTERNATIONAL MICA EXCHANGE
August 7, 2013

For the 20th MICA Exchange, 4 DNA samples (MICA#077-MICA#080) were shipped to 22 laboratories. MICA typing results were received from 20 laboratories and individual laboratory results are shown in Tables 1 – 4. Sixteen laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 2 laboratories used sequence-specific primer (SSP) typing, 1 laboratory used sequencing-based testing (SBT), and 1 laboratory used SBT along with next-generation sequencing (NGS).

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

Thank you for your continued participation in this important program.

MICA#077 (Asian)

This sample is homozygous for MICA*019. MICA*019 was assigned in complete consensus. One lab assigned MICA*008 along with MICA*019. MICA*019 is commonly found in Northeastern Thai populations at a frequency of 15.3% (1).

MICA#078 (Filipino)

MICA*002 and MICA*018 are the assigned types for this sample. Fischer noted the presence of a new allele, commenting that it differs from MICA*018:01 in exon 5 by a single nucleotide substitution at codon 279 (G to A) which results in an amino acid change from valine to methionine.

MICA*002:01 was assigned by sequencing, 2 labs assigned MICA*002:01/ *002:03, and the remainder of the labs (n=16) were unable to distinguish MICA*002 among MICA*020, MICA*055, and MICA*068. MICA*002, MICA*020, MICA*055 and MICA*068 are identical in their extra cellular domains, but differ in their transmembrane domains.

MICA#079 (Asian)

MICA*012 was reported in complete consensus for this sample. Seven labs assigned MICA*012:01.

In contrast, no consensus was reached for the second MICA allele. MICA*027 was assigned by the sequencing labs and 1 SSP lab. However, several other labs (2 rSSO, 1 SSP) assigned MICA*008. The remaining labs (n=14) were unable to resolve the ambiguity among MICA*008, MICA*027, MICA*048 and MICA*064N. MICA*008, MICA*027, and MICA*048 have the same nucleotide sequence in exons 2, 3, and 4, making it difficult to differentiate these alleles from each other if only exons 2-4 are analyzed. MICA*008 differs from MICA*027 in exon 5 in which a single nucleotide insertion (G) at codon 295 causes a premature termination in the transmembrane domain. Finally, MICA*063N differs from MICA*027 by a single amino acid substitution which results in a premature stop codon.

MICA#080 (Asian)

The consensus type for this sample is MICA*017 and MICA*019. This sample was previously typed as MICA sample#048 in 2010. In this present typing, MICA*019 was reported in completed consensus. In 2010, MICA*016/ *019/*033/*056 was assigned by 4 labs.

MICA*017 was reported by over half the labs (n=16), while MICA*017/*071 was assigned by 4 labs.

References:

1. Romphruk AV, Naruse TK, Ramphruk A, et al. Diversity of MICA (PERB11.1) and HLA haplotypes in Northeastern Thais. Tissue Antigens 2001;58:83-89.

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MICA#077	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
Table 1: MICA typing results reported by participating laboratories.						
(Asian)	234	Amador,Alexandra	*019	*019		rSSO
	16	Askar,Medhat	*019			rSSO
	3224	Chen,Dong-Feng	*019			rSSO
	2549	Fagoaga,Omar	*019	*019		rSSO
	762	Fischer,Gottfried	*019			SBT, NGS
	1647	Gautreaux,Micha	*019			rSSO
	8040	Gladman/Abji/Pelle	*019	*019		rSSO
	4337	Kim,Tai-Gyu	*019			SSP
	836	KuKuruga,Debra	*019			rSSO
	278	Lee,Jar-How	*019			rSSO
	759	Lopez-Cepero,My	*019			rSSO
	733	Mytilineos,Joannis	*019			SBT
	5231	Nelson,Karen	*019			rSSO
	3966	Permpikul&Vejbae	*019	*008		SSP
	8030	Poulton,Kay V.	*019			rSSO
	3753	Reed,Elaine F.	*019	*019		rSSO
	3798	Reinsmoen,Nancy	*019			rSSO
	2518	Tambur,Anat	*019			rSSO
	8053	Tyan,Dolly	*019			rSSO
	1466	Yu,Neng	*019	*019		rSSO

The number of GCT-repeats (A4, A5, A6, A7, A9, A10) or five GCT-repeats with an additional G (A5.1) in exon 5 (trans-membrane region) are indicated in parenthesis (PNAS 1997, 94:1298-1303).

rSSO - Luminex-based reverse sequence-specific oligonucleotide hybridization method

SBT - sequencing-based testing

SSP- sequence-specific priming typing

MICA#078 (Filpino)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	234	Amador,Alexandra	*002:01/*002:03/*020/*055	*018:01		rSSO
	16	Askar,Medhat	*002/*020/*055/*068	*018		rSSO
	3224	Chen,Dong-Feng	*002/*020/*055/*068	*018		rSSO
	2549	Fagoaga,Omar	*002/*020/*055	*018		rSSO
	762	Fischer,Gottfried	*002:01	*new		SBT, NGS
	1647	Gautreaux,Micha	*002:01/*002:03/*020/*055	*018:01		rSSO
	8040	Gladman/Abji/Pelle	*002:01/*002:03	*018:01		rSSO
	4337	Kim,Tai-Gyu	*002/*020/*055	*018		SSP
	836	KuKuruga,Debra	*002/*020/*055/*068	*018		rSSO
	278	Lee,Jar-How	*002/*020/*055	*018		rSSO
	759	Lopez-Cepero,My	*002/*020/*055	*018		rSSO
	733	Mytilineos,Joannis	*002:01	*018:01		SBT
	5231	Nelson,Karen	*002/*020/*055	*018		rSSO
	3966	Permpikul&Vejbae	*002/*020	*018		SSP
	8030	Poulton,Kay V.	*002:01/*002:03	*018:01	*020/*055	rSSO
	3753	Reed,Elaine F.	*002/*020/*055	*018		rSSO
	3798	Reinsmoen,Nancy	*002/*020/055	*018:01		rSSO
	2518	Tambur,Anat	*002/*020/*055	*018		rSSO
	8053	Tyan,Dolly	*002/*020/*055	*018		rSSO
	1466	Yu,Neng	*002/*020/*055/*068	*018		rSSO

Table 2: MICA typing results reported by participating laboratories.

MICA#079	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
Table 3: MICA typing results reported by participating laboratories.						
(Asian)	234	Amador,Alexandr	*012:01	*008:01/*027/*048		rSSO
	16	Askar,Medhat	*012	*008/*027/*048		rSSO
	3224	Chen,Dong-Feng	*012/*061	*008/*027/*048/*064N		rSSO
	2549	Fagoaga,Omar	*012	*008/*027/*048/*064N		rSSO
	762	Fischer,Gottfried	*012:01	*027		SBT, NGS
	1647	Gautreaux,Micha	*012:01	*008:01/*027/*048/*064N		rSSO
	8040	Gladman/Abji/Pe	*012:01	*008:01		rSSO
	4337	Kim,Tai-Gyu	*012	*027		SSP
	836	KuKuruga,Debra	*012	*008/*027/*048		rSSO
	278	Lee,Jar-How	*012	*008/*027/*048		rSSO
	759	Lopez-Cepero,My	*012	*008/*027/*048		rSSO
	733	Mytilineos,Joanni	*012:01	*027		SBT
	5231	Nelson,Karen	*012	*008/*027/*048		rSSO
	3966	Permpikul&Vejba	*012	*008		SSP
	8030	Poulton,Kay V.	*012:01	*008:01	*027/*048	rSSO
	3753	Reed,Elaine F.	*012	*008/*027/*048		rSSO
	3798	Reinsmoen,Nanc	*012:01	*008/*027/*048/*064N		rSSO
	2518	Tambur,Anat	*012	*008/*027/*048		rSSO
	8053	Tyan,Dolly	*012	*008/*027/*048/*064N		rSSO
	1466	Yu,Neng	*012	*008/*027/*048		rSSO

		Table 4: MICA typing results reported by participating laboratories.			
MICA#080 (Asian)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	234	Amador,Alexandra	*017	*019		rSSO
	16	Askar,Medhat	*017/*071	*019		rSSO
	3224	Chen,Dong-Feng	*017/*071	*019		rSSO
	2549	Fagoaga,Omar	*017	*019		rSSO
	762	Fischer,Gottfried	*017	*019		SBT, NGS
	1647	Gautreaux,Micha	*017	*019		rSSO
	8040	Gladman/Abji/Pelle	*017	*019		rSSO
	4337	Kim,Tai-Gyu	*017	*019		SSP
	836	KuKuruga,Debra	*017/*071	*019		rSSO
	278	Lee,Jar-How	*017	*019		rSSO
	759	Lopez-Cepero,My	*017	*019		rSSO
	733	Mytilineos,Joannis	*017	*019	*071	SBT
	5231	Nelson,Karen	*017	*019		rSSO
	3966	Permpikul&Vejbae	*017	*019		SSP
	8030	Poulton,Kay V.	*017	*019		rSSO
	3753	Reed,Elaine F.	*017	*019		rSSO
	3798	Reinsmoen,Nancy	*017	*019		rSSO
	2518	Tambur,Anat	*017	*019		rSSO
	8053	Tyan,Dolly	*017	*019		rSSO
	1466	Yu,Neng	*017/*071	*019		rSSO