

# REPORT OF THE 7th UCLA INTERNATIONAL MICA EXCHANGE

May 6, 2009

MICA 25-28

We thank all participating laboratories in the UCLA International MICA Exchange Program. Four DNA samples were shipped to 22 laboratories and results were received from 17 laboratories (Table 1-2). Ten laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 2 laboratories used sequencing-based testing (SBT), 4 laboratories used sequence-specific priming (SSP) typing and 1 laboratory used both SBT and

rSSO. Three of the sequencing laboratories also reported the number of GCT repeats in exon 5.

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.

Thanks again for your participation in this important program.

---

## MICA#025 (Black)

MICA\*004 (A6) was assigned by 96% of the participating laboratories. The consensus for the second allele was MICA\*008 (A5.1), with the exception of one laboratory reporting MICA\*027. Madrigal, Pidwell, and Stastny were the laboratories that assessed the number of GCT repeats in exon 5. MICA\*008 belongs to the A5.1 group with a G insertion after the second GCT repeat which results in a stop codon at position 304. MICA\*027 has the same nucleotide sequence in exons 2, 3, and 4 as MICA\*008 and are ambiguous if only exons 2-4 are analyzed.

## MICA#026 (Hispanic)

MICA\*004 (A6) was assigned by all but one laboratory. The assignment for the second MICA allele was more heterogeneous with 75% of the laboratories reporting MICA\*010 (A5). MICA\*010 and MICA\*054 differ from other MICA alleles at codon 6 where arginine is replaced by proline resulting in the loss of cell surface expression. MICA\*054 differs from MICA\*010 only at position 268 in the  $\alpha$ 3 domain, where MICA\*054 has glycine and MICA\*010 has serine. Nine laboratories reported using trays from the same commercial company. Interestingly, 2 of these laboratories assigned MICA \*016/\*019 instead of MICA\*010 and 1 other could not distinguish among them.

## MICA#027 (Caucasian)

The consensus typing for this sample was MICA\*007 (A4) and MICA\*008 (A5.1). Nine laboratories could not resolve the ambiguity between MICA\*007 and MICA\*026. MICA\*00701 differs from MICA\*026 (A6) only in the number of GCT repeats in exon 5. MICA\*00804 has a synonymous change (TTT) from MICA\*00801 (TTC) at position 3.

## MICA#028 (Caucasian)

The consensus typing of this sample was MICA\*016 (A5) and MICA\*018 (A4). Six laboratories could not resolve the ambiguity among MICA\*016, MICA\*019, and MICA\*033. MICA\*016, MICA\*019, and MICA\*033 belong to the A5 group. MICA\*016 differs from MICA\*019 at position 221 (exon 4), where MICA\*016 has leucine and MICA\*019 has valine. MICA\*033 differs from MICA\*019 at position 124 where MICA\*033 has serine and MICA\*019 has threonine.

One laboratory assigned MICA\*007 instead of MICA\*018. Both alleles are A4 types, having the same number of GTC repeats in exon 5. MICA\*018 differs from MICA\*007 at position 24 ( $\alpha$ 1 domain) where MICA\*018 has threonine and MICA\*007 has alanine.

**NEXT MAILING DATE: August 5, 2009**

*Arlene Locke, Marie Lau, Qiuhen Zhang, Raja Rajalingam, J. Michael Cecka, and Elaine F. Reed*

<b>Table 1: MICA typing results reported by participating laboratories.</b>						
<b>MICA #025 (Black)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
	8030	Davidson&Poulton	*004	*008		rSSO
	8040	Gladman/Pellet	*004	*00801		SSP
	8054	Jackson,Annette	*004	*008		rSSO
	4337	Kim,Tai-Gyu	*004	*008		SSP
	836	KuKuruga,Debra	*004	*008		rSSO
	278	Lee,Jar-How	*004	*008		rSSO
	759	Lopez-Cepero,My	*004	*008		rSSO
	8055	Madrigal,J.A.	*004 (A6)	*008 (A5.1)		SBT
	5231	Nelson,Karen	*004	*00801/04		rSSO
	3966	Permpikul&Vejbæ	*004	*027		SSP
	16	Pidwell,Diane J.	*004 (A6)	*00801/04 (A5.1)		SBT,rSSO
	8057	Ray,Bryan	*004	*008/*027		rSSO
	3753	Reed,Elaine F.	*004	*008		rSSO
	3625	Rees,Tracey	*004	*00801		SSP
	791	Stastny,Peter		*00801 (A5.1)	*00804 (A5.1)	SBT
	8053	Tyan,Dolly	*004	*008		rSSO
	1466	Yu,Neng	*004	*008		rSSO
<b>MICA #026 (Hispanic)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
	8030	Davidson&Poulton	*004	*016/*019		rSSO
	8040	Gladman/Pellet	*004	*010		SSP
	8054	Jackson,Annette	*004	*010	*054	rSSO
	4337	Kim,Tai-Gyu	*004	*010		SSP
	836	KuKuruga,Debra	*004	*010	*054	rSSO
	278	Lee,Jar-How	*004	*010/*054		rSSO
	759	Lopez-Cepero,My	*004	*010		rSSO
	8055	Madrigal,J.A.	*004 (A6)	*00901 (A6)		SBT
	5231	Nelson,Karen	*004	*010/*054		rSSO
	3966	Permpikul&Vejbæ	*004	*010		SSP
	16	Pidwell,Diane J.	*004 (A6)	*010 (A5)		SBT,rSSO
	8057	Ray,Bryan	*004	*010/*054		rSSO
	3753	Reed,Elaine F.	*004	*016/*019		rSSO
	3625	Rees,Tracey	NT			
	791	Stastny,Peter		*010 (A5)		SBT
	8053	Tyan,Dolly	*004	*010/*054/*016/*019*056		rSSO
	1466	Yu,Neng	*004	*010/*054		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

<b>Table 2: MICA typing results reported by participating laboratories.</b>							
<b>MICA #027 (Caucasian)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>	
	8030	Davidson&Poulton	*007/*026	*008		rSSO	
	8040	Gladman/Pellet	*00701/*026	*00801		SSP	
	8054	Jackson,Annette	*007	*008	*026	rSSO	
	4337	Kim,Tai-Gyu	*007	*008		SSP	
	836	KuKuruga,Debra	*007	*008	*026	rSSO	
	278	Lee, Jar-How	*007/*026	*008		rSSO	
	759	Lopez-Cepero,My	*007/*026	*008		rSSO	
	8055	Madrigal,J.A.	*00701 (A4)	*008 (A5.1)		SBT	
	5231	Nelson,Karen	*00701/*026	*00801/*00804		rSSO	
	3966	Permpikul&Vejbæ	*007	*027		SSP	
	16	Pidwell,Diane J.	*007 (A4)	*00801/04 (A5.1)		SBT,rSSO	
	8057	Ray,Bryan	*007	*008/*027	*026, *028, *037	rSSO	
	3753	Reed,Elaine F.	*007/*026	*008		rSSO	
	3625	Rees,Tracey	*007/*026	*00801		SSP	
	791	Stastny,Peter	*00701 (A4)	*00801 (A5.1)	*00804 (A5.1)	SBT	
	8053	Tyan,Dolly	*007/*026	*008		rSSO	
	1466	Yu,Neng	*007/*026	*008		rSSO	
	<b>MICA #028 (Caucasian)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
		8030	Davidson&Poulton	*016/*019	*018		rSSO
8040		Gladman/Pellet	*016	*018		SSP	
8054		Jackson,Annette	*016	*018	*019, *033	rSSO	
4337		Kim,Tai-Gyu	*016	*007		SSP	
836		KuKuruga,Debra	*016	*018	*019, *033	rSSO	
278		Lee, Jar-How	*016/*019/*033/*056	*018		rSSO	
759		Lopez-Cepero,My	*016/*019/*033	*018		rSSO	
8055		Madrigal,J.A.	*016 (A5)	*01801 (A4)		SBT	
5231		Nelson,Karen	*016/*019/*033	*01801		rSSO	
3966		Permpikul&Vejbæ	*016	*018		SSP	
16		Pidwell,Diane J.	*016 (A5)	*01801 (A4)		SBT, rSSO	
8057		Ray,Bryan	*016	*018		rSSO	
3753		Reed,Elaine F.	*016/*019/*033	*018		rSSO	
3625		Rees,Tracey	*016/*019	*01801		SSP	
791		Stastny,Peter	*016 (A5)	*01801 (A4)		SBT	
8053		Tyan,Dolly	*016/*019/*033/*056	*018		rSSO	
1466		Yu,Neng	*016/*019/*033/*056	*018		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