

REPORT OF THE 9th UCLA INTERNATIONAL MICA EXCHANGE

December 15, 2009

MICA 33-36

We thank all participating laboratories in the UCLA International MICA Exchange Program. Four DNA samples were shipped to 23 laboratories, and MICA typing results were received from 17 laboratories (Table 1). Eleven laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 2 laboratories used sequencing-based testing (SBT), 3 laboratories used sequence-specific priming (SSP) typing, and 1 laboratory used both SBT and rSSO. The number of GCT-repeats in exon 5 was reported

by the sequencing laboratories.

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. We wish you all the best in 2010!

MICA#033 (Black)

The consensus typing of the first allele is MICA*008 (A5.1). MICA*008 belongs to the MICA-A5.1 group which contains five triplet repeats plus one additional nucleotide insertion (GGCT/AGCC). This causes a frame shift mutation, which results in premature termination by the stop codon (TAA) at position 304 in the transmembrane domain. MICA*027 has the same nucleotide sequence in exons 2, 3, and 4 as MICA*008; therefore, assignment for either is ambiguous if only exons 2-4 are analyzed. The consensus typing of the second allele is MICA*011 (A6). Two laboratories assigned MICA*002. MICA*011 differs from MICA*002 at position 151 and 271 where MICA*011 contains a valine and an alanine, respectively, compared to methionine and proline in MICA*002.

MICA#034 (Black)

The consensus typing of this sample is MICA*004 (A6) and MICA*018 (A4). MICA*004 has 6 GCT repeats in exon 5. MICA*004 is common in African Americans, Caucasians, and Asians. MICA*004 has a strong association with HLA-B*44 in these populations.

MICA*018 differs from MICA*007 only at position 24, where MICA*018 has a threonine while MICA*007 has an alanine.

MICA#035 (Asian)

The consensus typing of this sample was MICA*009 (A6) and MICA*010 (A5). MICA*009 is identical to MICA*049 except at position 333 (exon 6) in the transmembrane domain, where MICA*009 has a threonine and MICA*049 has a methionine.

Six laboratories assigned MICA*010 and/or MICA*054. Two laboratories assigned MICA*016/*019/*056. 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 α 3 domain, where MICA*054 has a glycine and MICA*010 has a serine.

MICA#036 (Black)

The consensus typing of this sample was MICA*008 (A5.1) and MICA*019 (A5). Ten laboratories could not resolve the ambiguity among MICA*016, MICA*019, MICA*033, and MICA*056. MICA*016 differs from MICA*019, MICA*033, and MICA*056 at position 221 (exon 4), where MICA*016 has a leucine, while the others have a valine. MICA*016, MICA*019, and MICA*056 have a threonine at position 124 where MICA*033 has a serine. Finally, MICA*056 has a serine at position 230 compared to a tryptophan in MICA*016, MICA*019, and MICA*033.

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Table 1: MICA typing results reported by participating laboratories.						
MICA #033 (Black)	8030	Davidson&Poulton	*008	*011		rSSO
	8040	Gladman/Pellet/P	*00801	*011		SSP
	8054	Jackson,Annette	*008	*011		rSSO
	4337	Kim,Tai-Gyu	*008	*002		SSP
	836	KuKuruga,Debra	*008	*011		rSSO
	278	Lee,Jar-How	*008	*011		rSSO
	759	Lopez-Cepero,My	*008	*011		rSSO
	8055	Madrigal,J.A.	*008 (A5.1)	*011 (A6)		SBT
	5231	Nelson,Karen	*008	*011		rSSO
	3966	Permpikul&Vejbæ	*008	*011		rSSO
	16	Pidwell/Askar	*00801/04 (A5.1)	*011 (A6)		rSSO,SBT
	8057	Ray,Bryan	*008/*027	*002		rSSO
	3753	Reed,Elaine F.	*008	*011		rSSO
	3625	Rees,Tracey	*00801	*011		SSP
	791	Stastny,Peter	*00801 (A5.1)	*011 (A6)	*00804 (A5.1)	SBT
	8053	Tyan,Dolly	*008	*011		rSSO
	1466	Yu,Neng	*008	*011		rSSO
MICA #034 (Black)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*004	*018		rSSO
	8040	Gladman/Pellet/P	*004	*018		SSP
	8054	Jackson,Annette	*004	*018		rSSO
	4337	Kim,Tai-Gyu	*004	*007		SSP
	836	KuKuruga,Debra	*004	*018		rSSO
	278	Lee,Jar-How	*004	*018		rSSO
	759	Lopez-Cepero,My	*004	*018		rSSO
	8055	Madrigal,J.A.	*004 (A6)	*01801 (A4)		SBT
	5231	Nelson,Karen	*004	*018		rSSO
	3966	Permpikul&Vejbæ	*004	*018		rSSO
	16	Pidwell/Askar	*004 (A6)	*01801 (A4)		rSSO,SBT
	8057	Ray,Bryan	*004	*018		rSSO
	3753	Reed,Elaine F.	*004	*018		rSSO
	3625	Rees,Tracey	*004	*01801		SSP
	791	Stastny,Peter	*004 (A6)	*01801 (A4)		SBT
	8053	Tyan,Dolly	*004	*018		rSSO
1466	Yu,Neng	*004	*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

Table 2: MICA typing results reported by participating laboratories.						
MICA #035 (Asian)	Ctrl	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*009	*016/*019		rSSO
	8040	Gladman/Pellet/P	*00901/02	*010	*049	SSP
	8054	Jackson,Annette	*009	*010	*054, *049	rSSO
	4337	Kim,Tai-Gyu	*009	*010		SSP
	836	KuKuruga,Debra	*009/*049	*010/*054		rSSO
	278	Lee, Jar-How	*009/*049	*016/*019/*056		rSSO
	759	Lopez-Cepero, My	*009/*049	*010/*054		rSSO
	8055	Madrigal, J.A.	*00901 (A6)	*019 (A5)	*049	SBT
	5231	Nelson, Karen	*009/*049	*010/*054		rSSO
	3966	Permpikul&Vejbæ	*009/*049	*016/*019/*056		rSSO
	16	Pidwell/Askar	*00901/*049 (A6)	*010 (A5)		rSSO, SBT
	8057	Ray, Bryan	*009	*019	*049	rSSO
	3753	Reed, Elaine F.	*009/*049	*010/*054		rSSO
	3625	Rees, Tracey	*00901/*019/*049	*010		SSP
	791	Stastny, Peter	*00901 (A6)	*010 (A5)	*049 (A6)	SBT
	8053	Tyan, Dolly	*009/*049	*010/*054		rSSO
	1466	Yu, Neng	*009/*049	*010/*054		rSSO
MICA #036 (Black)	Ctrl	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*008	*016/*019		rSSO
	8040	Gladman/Pellet/P	*00801	*019		SSP
	8054	Jackson,Annette	*008	*016	*019,*033,*056	rSSO
	4337	Kim,Tai-Gyu	*008			SSP
	836	KuKuruga,Debra	*008	*016/*019/*033		rSSO
	278	Lee, Jar-How	*008	*016/*019/*033/*056		rSSO
	759	Lopez-Cepero, My	*008	*016/*019/*033		rSSO
	8055	Madrigal, J.A.	*008 (A5.1)	*019 (A5)		SBT
	5231	Nelson, Karen	*008	*016/*019/*033		rSSO
	3966	Permpikul&Vejbæ	*008	*016/*019/*033/*056		rSSO
	16	Pidwell/Askar	*00801/04 (A5.1)	*019 (A5)		rSSO, SBT
	8057	Ray, Bryan	*008/*027	*019		rSSO
	3753	Reed, Elaine F.	*008	*016/*019/*033		rSSO
	3625	Rees, Tracey	*00801	*019		SSP
	791	Stastny, Peter	*00801 (A5.1)	*019 (A5)	*00804 (A5.1)	SBT
	8053	Tyan, Dolly	*008	*016/*019/*033/*056		rSSO
	1466	Yu, Neng	*008	*016/*019/*033/*056		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).

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