

REPORT OF THE 8th UCLA INTERNATIONAL MICA EXCHANGE

August 5, 2009

MICA 29-32

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). 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 one 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.

Thank you for your participation in this important program.

MICA#029 (Caucasian)

The consensus typing of this sample was MICA*001 (A4) and MICA*008 (A5.1). Three laboratories used sequencing based typing to assess the numbers of GCT-repeats in exon 5. One of the 3 sequencing laboratories did not detect MICA*001. 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.

MICA#030 (Asian)

The consensus typing of this sample was MICA*010 (A5) and MICA*027 (A5). Seven laboratories assigned MICA*010 and seven others assigned MICA*010/*054. One laboratory reported MICA*016/*019 and another reported MICA*016/*019/*033. One of the 3 sequencing laboratories did not detect MICA*010. Another laboratory using the SSP method did not detect MICA*027 and reported only MICA*010. 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 glycine and MICA*010 has serine.

MICA#031 (Black)

MICA*002 (A9) and MICA*011 (A6) was the consensus type for this sample. Seven laboratories reported MICA*002/*020/*055 and 3 laboratories reported MICA*00201 (A9). MICA*002, MICA*020, MICA*052, and MICA*055 are identical in the extra cellular domains and differ only in the number of GCT repeats at their transmembrane domains, where MICA*002 belongs to the A9 group, while MICA*020 belongs to the A10 group. MICA*052 and MICA*055 do not have sequencing information at codon 291-304. MICA*002 differs from MICA*007 at position 14 where MICA*002 has a glycine while MICA*007 has a tryptophan.

Two laboratories did not detect MICA*011 (one reported MICA*007 and another reported *002/*020/*052/*055) and one laboratory reported this sample as homozygous for MICA*011.

MICA#032 (Vietnamese)

The consensus typing of this sample was MICA*012 (A4) and MICA*002/*020/*055. One laboratory reported MICA*007 and MICA*012, and another laboratory reported the sample as homozygous for MICA*012.

NEXT MAILING DATE: February 3, 2010

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

Table 1: MICA typing results reported by participating laboratories.						
MICA #029 (Caucasian)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*001	*008		rSSO
	8040	Gladman/Pellet/P	*001	*00801		SSP
	8054	Jackson,Annette	*001	*008		rSSO
	4337	Kim,Tai-Gyu	*001	*008		SSP
	836	KuKuruga,Debra	*001	*008		rSSO
	278	Lee,Jar-How	*001	*008		rSSO
	759	Lopez-Cepero,My	*001	*00801/*00804		rSSO
	8055	Madrigal,J.A.	*001 (A4)	*008 (A5.1)		SBT
	5231	Nelson,Karen	*001	*008		rSSO
	3966	Permpikul&Vejbæ	*001	*008		SSP
	16	Pidwell,Diane J.	*001 (A4)	*00801/*00804 (A5.1)		SBT, rSSO
	8057	Ray,Bryan	*001	*008/*027		rSSO
	3753	Reed,Elaine F.	*001	*008		rSSO
	3625	Rees,Tracey	*001	*00801		SSP
	791	Stastny,Peter		*00801 (A5.1)	*00804 (A5.1)	SBT
	8053	Tyan,Dolly	*001	*008		rSSO
1466	Yu,Neng	*001	*008		rSSO	
MICA #030 (Asian)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*016/*019	*027		rSSO
	8040	Gladman/Pellet/P	*010			SSP
	8054	Jackson,Annette	*010	*027	*054	rSSO
	4337	Kim,Tai-Gyu	*010	*008		SSP
	836	KuKuruga,Debra	*010/*054	*027		rSSO
	278	Lee,Jar-How	*010/*054	*027		rSSO
	759	Lopez-Cepero,My	*010/*054	*027		rSSO
	8055	Madrigal,J.A.		*027 (A5)		SBT
	5231	Nelson,Karen	*010/*054	*027		rSSO
	3966	Permpikul&Vejbæ	*010	*027		SSP
	16	Pidwell,Diane J.	*010 (A5)	*027 (A5)		SBT, rSSO
	8057	Ray,Bryan	*010/*054	*008/*027		rSSO
	3753	Reed,Elaine F.	*016/*019/*033	*027		rSSO
	3625	Rees,Tracey	*010	*00804/*019/*027/*053		SSP
	791	Stastny,Peter	*010 (A5)	*027 (A5)	*048 (A5)	SBT
	8053	Tyan,Dolly	*010/*054	*027		rSSO
1466	Yu,Neng	*010/*054	*027		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 #031 (Black)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*002/*020	*011		rSSO
	8040	Gladman/Pellet/P		*011		SSP
	8054	Jackson,Annette	*002	*011	*055	rSSO
	4337	Kim, Tai-Gyu	*002	*007		SSP
	836	KuKuruga,Debra	*002/*020/*055	*011		rSSO
	278	Lee, Jar-How	*002/*020/*055	*011		rSSO
	759	Lopez-Cepero, My	*00201/*020/*055	*011		rSSO
	8055	Madrigal, J.A.	*00201 (A9)	*011 (A6)		SBT
	5231	Nelson, Karen	*002/*020/*055	*011		rSSO
	3966	Permpikul&Vejbæ	*002/*020	*011		SSP
	16	Pidwell, Diane J.	*00201 (A9)	*011 (A6)		SBT, rSSO
	8057	Ray, Bryan	*002/*020/*052/*055	*002/*020/*052/*055		rSSO
	3753	Reed, Elaine F.	*002/*020/*055	*011		rSSO
	3625	Rees, Tracey	*00201/*011/*020/ *030/*052	*011		SSP
	791	Stastny, Peter	*00201 (A9)	*011 (A6)		SBT
8053	Tyan, Dolly	*002/*020/*055	*011		rSSO	
1466	Yu, Neng	*002/*020/*055	*011		rSSO	
MICA #032 (Vietnamese)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8030	Davidson&Poulton	*002/*020	*012		rSSO
	8040	Gladman/Pellet/P		*01201/*01202		SSP
	8054	Jackson,Annette	*002	*012	*055	rSSO
	4337	Kim, Tai-Gyu	*007	*012		SSP
	836	KuKuruga,Debra	*002/*020/*055	*012		rSSO
	278	Lee, Jar-How	*002/*020/*055	*012		rSSO
	759	Lopez-Cepero, My	*00201/*020/*055	*01201		rSSO
	8055	Madrigal, J.A.	*00201 (A9)	*01201 (A4)		SBT
	5231	Nelson, Karen	*002/*020/*055	*012		rSSO
	3966	Permpikul&Vejbæ	*002/*020	*012		SSP
	16	Pidwell, Diane J.	*00201 (A9)	*01201 (A4)		SBT, rSSO
	8057	Ray, Bryan	*002/*020/*052/*055	*012	*023	rSSO
	3753	Reed, Elaine F.	*002/*020/*055	*012		rSSO
	3625	Rees, Tracey	*00201/*020/*052	*01201		SSP
	791	Stastny, Peter	*00201 (A9)	*01201 (A4)		SBT
8053	Tyan, Dolly	*002/*020/*055	*012		rSSO	
1466	Yu, Neng	*002/*020/*055	*012		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