REPORT OF THE 13th UCLA INTERNATIONAL MICA EXCHANGE

May 4, 2011

MICA 49-52

We thank all participating laboratories in the UCLA International MICA Exchange Program. Four DNA samples were shipped to 24 laboratories, and MICA typing results were received from 22 laboratories (Table 1). Fifteen laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 4 laboratories used sequence-specific priming (SSP) typing, and 3 laboratories used sequencing-based testing (SBT). The number of GCT-repeats in exon 5 was reported by 2 of 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.

MICA#049 (Korean)

MICA*004 (A6) and MICA*011 (A6) were typed in complete consensus for this sample. Two laboratories reported the number of GCT-repeats in exon 5 using sequencing-based typing.

MICA#050 (Japanese)

The consensus type of this sample is MICA*010 (A4) and MICA*027 (A5). One laboratory reported MICA*010/*019 and another reported MICA*010/*054. MICA*010 and MICA*019 differ from other MICA alleles at codon 6 where arginine is replaced by proline resulting in the loss of cell surface expression of MICA*010. MICA*054 differs from MICA*010 only at codon 268 in the α3 domain, where MICA*054 has glycine and MICA*010 has serine.

The majority of the laboratories performing rSSO reported MICA*027/*048. MICA*027 and MICA*048 belong to A5 group. MICA*008, MICA*027, and MICA*048 have the same nucleotide sequence in exons 2, 3 and 4 making it difficult to distinguish MICA*008, MICA*027, and MICA*048 from each other if only exons 2-4 are analyzed.

MICA#051 (Caucasian)

MICA*007 (A4) and MICA*008 (A5.1) is the consensus type for this sample. Fifteen laboratories were unable to resolve the ambiguity between MICA*007 and MICA*026. MICA*007:01 differs from MICA*026 (A6) only by the number of GCT repeats in exon 5.

MICA*008:01/*008:04 was reported by a number of laboratories. MICA*008:04 differs from MICA*008:01 by a synonymous substitution in exon 1 where C is replaced by T in MICA*008:04.

MICA#052 (Black)

MICA*002 (A9) and MICA*015 (A9) were present in this sample. The 3 SBT laboratories reported MICA*002:01 and MICA*015. Two rSSO laboratories and 1 SSP lab reported MICA*002 and MICA*015. However, a majority of the laboratories had difficulty resolving the ambiguity among MICA*002/*015/*020/*055. This same ambiguity was seen in MICA sample #039 also from a Black donor. MICA*015 differs from MICA*002, MICA*020, MICA*030, MICA*052 and MICA*055 at codon 114 (exon 3) where glycine is replaced by arginine in MICA*015.

The transmembrane domain of MICA*015 contains a large polylysine repeat followed by a truncation due to a deletion at the beginning of exon 5 resulting in a frame-shift mutation. MICA*002, MICA*020, MICA*030, MICA*052 and MICA*055 are identical in their extra cellular domains, but differ in their transmembrane domain.

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	Table 1: MICA typing results reported by participating laboratories.					
MICA#049 (Korean)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	16	Askar,Medhat	*004	*011		rSSO
	3224	Chen,Dong-Feng	*004	*011		rSSO
	762	Fischer&Mayr	*004 (A6)	*011 (A6)		SBT
	1647	Gautreaux,Micha	*004	*011	*003	rSSO
	8040	Gladman/Pellet/P	*004	*011		SSP
	234	Gomez,Carmen	*004	*011		rSSO
	4337	Kim,Tai-Gyu	*004	*011		SSP
	836	KuKuruga,Debra	*004	*011		rSSO
	278	Lee,Jar-How	*004	*011		rSSO
	759	Lopez-Cepero,My	*004	*011		rSSO
	733	Mytilineos,Joannis	*004	*011		SBT
	5231	Nelson,Karen	*004	*011		rSSO
	3966	Permpikul&Vejbae	*004	*011		SSP
	8030	Poulton,Kay V.	*004	*011		rSSO
	3753	Reed,Elaine F.	*004	*011		rSSO
	3625	Rees,Tracey	*004	*011		SSP
	3798	Reinsmoen,Nancy	*004	*011		rSSO
	791	Stastny,Peter	*004 (A6)	*011 (A6)		SBT
	2518	Tambur,Anat	*004	*011		rSSO
	8053	Tyan,Dolly	*004	*011		rSSO
	3775	Vidan-Jeras,Blank	*004	*011		rSSO
	1466	Yu,Neng	*004	*011		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#050 (Japanese)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	16	Askar,Medhat	*010	*027/*048		rSSO
	3224	Chen,Dong-Feng	*010	*027/*048		rSSO
	762	Fischer&Mayr	*010 (A5)	*027 (A5)		SBT
	1647	Gautreaux,Micha	*019	*027/*048		rSSO
	8040	Gladman/Pellet/P	*010	*027		SSP
	234	Gomez,Carmen	*010	*027/*048		rSSO
	4337	Kim,Tai-Gyu	*010	*027		SSP
	836	KuKuruga,Debra	*010	*027/*048		rSSO
	278	Lee,Jar-How	*010	*027/*048		rSSO
	759	Lopez-Cepero,My	*010/*019	*027/*048		rSSO
	733	Mytilineos,Joannis	*010	*027		SBT
	5231	Nelson,Karen	*010	*027/*048		rSSO
	3966	Permpikul&Vejbae	*010	*027		SSP
	8030	Poulton,Kay V.	*010	*027	*048	rSSO
	3753	Reed,Elaine F.	*010	*027/*048		rSSO
	3625	Rees,Tracey	*010	*027		SSP
	3798	Reinsmoen,Nancy	*010	*027/*048		rSSO
	791	Stastny,Peter	*010 (A5)	*027 (A5)		SBT
	2518	Tambur,Anat	*010	*027	*048	rSSO
	8053	Tyan,Dolly	*010	*027/*048		rSSO
	3775	Vidan-Jeras,Blank	*010/*054	*027		rSSO
	1466	Yu,Neng	*010	*027/*048		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 3: MICA typing results reported by participating laboratories.					
MICA#051 (Caucasian)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	16	Askar,Medhat	*007:01/*026	*008:01/*008:04		rSSO
	3224	Chen,Dong-Feng	*007/*026	*008		rSSO
	762	Fischer&Mayr	*007:01 (A4)	*008:01/*008:04 (A5.1)		SBT
	1647	Gautreaux,Micha	*007/*026	*008		rSSO
	8040	Gladman/Pellet/P	*00701/*026	*00801		SSP
	234	Gomez,Carmen	*007:01	*008:01/*008:04/*026		rSSO
	4337	Kim,Tai-Gyu	*007	*008		SSP
	836	KuKuruga,Debra	*007/*026	*008		rSSO
	278	Lee,Jar-How	*007/*026	*008		rSSO
	759	Lopez-Cepero,My	*007/*026	*008		rSSO
	733	Mytilineos,Joannis	*007:01	*008:01	*008:04	SBT
	5231	Nelson,Karen	*007/*026	*008		rSSO
	3966	Permpikul&Vejbae	*00701/*026	*008		SSP
	8030	Poulton,Kay V.	*007:01	*008:01/*008:04		rSSO
	3753	Reed,Elaine F.	*007/*026	*008		rSSO
	3625	Rees,Tracey	*007/*026	*008		SSP
	3798	Reinsmoen,Nancy	*007/*026	*008		rSSO
	791	Stastny,Peter	*007:01 (A4)	*008:01 (A5.1)	*008:04 (A5.1)	SBT
	2518	Tambur,Anat	*007	*008	*026	rSSO
	8053	Tyan,Dolly	*007/*026	*008		rSSO
	3775	Vidan-Jeras,Blank	*007/*026	*008/*058		rSSO
	1466	Yu,Neng	*007/*026	*008		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 4: MICA typing results reported by participating laboratories.					
MICA#052 (Black)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	16	Askar,Medhat	*015/*002:01/*002:03/*020/*055	*015		rSSO
	3224	Chen,Dong-Feng	*002/*015/*020/*055	*015		rSSO
	762	Fischer&Mayr	*002:01 (A9)	*015 (A9)		SBT
	1647	Gautreaux,Micha	*002/*015/*020/*055	*015		rSSO
	8040	Gladman/Pellet/P	*018	*015		SSP
	234	Gomez,Carmen	*002:01/*002:03	*015/*020/*055		rSSO
	4337	Kim,Tai-Gyu	*002	*015		SSP
	836	KuKuruga,Debra	*002/*015/*020/*055	*015		rSSO
	278	Lee,Jar-How	*002/*015/*020/*055	*015		rSSO
	759	Lopez-Cepero,My	*002/*015/*020/*055	*015		rSSO
	733	Mytilineos,Joannis	*002:01	*015		SBT
	5231	Nelson,Karen	*002/*015/*020/*055	*015		rSSO
	3966	Permpikul&Vejbae	*00701/*026	*015		SSP
	8030	Poulton,Kay V.	*002:01/*002:03	*015	*020/*055	rSSO
	3753	Reed,Elaine F.	*002/*015/*020/*055	*015		rSSO
	3625	Rees,Tracey	*015/*00201/*020	*015		SSP
	3798	Reinsmoen,Nancy	*002/*015/*020/*055	*015		rSSO
	791	Stastny,Peter	*002:01 (A9)	*015 (A9)		SBT
	2518	Tambur,Anat	*002	*015	*020/*055	rSSO
	8053	Tyan,Dolly	*002/*015/*020/*055	*015		rSSO
	3775	Vidan-Jeras,Blank	*002/*015/*020/*030/*052/*055	*015		rSSO
	1466	Yu,Neng	*002/*015/*020/*055	*015		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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