

# REPORT OF THE 17th UCLA INTERNATIONAL MICA EXCHANGE

August 1, 2012

MICA 65-68

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 22 laboratories (Table 1). Seventeen laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 3 laboratories used sequencing-based testing (SBT), and 2 laboratories used sequence-specific priming (SSP) typing. The number of GCT-repeats in exon 5 was reported by Lacelle. The present study includes

samples that were studied in previous exchanges. Compared to previous results, significant improvement in the accuracy of MICA typing was observed.

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#065 (Asian)

The assigned types for this sample were MICA\*004 (A6) and MICA\*012 (A4). This DNA was previously typed as sample #016 in 2006. In the 2006 study, MICA\*004 and MICA\*012 were reported in complete consensus (n=7). In this present study, 9 laboratories assigned MICA\*004 and MICA\*012. However, 8 laboratories using rSSO were unable to distinguish MICA\*004 from MICA\*067. MICA\*067 differs from MICA\*004 in exon 3 at codon 102 (AAC->AGC) resulting in an amino acid change from asparagine to serine.

MICA\*012 was assigned by a total of 13 laboratories, with 6 (3 SBT, 3 rSSO) reporting MICA\*012:01. Another 6 reported MICA\*012/\*061. MICA\*061 differs from MICA\*012 by a single nucleotide substitution in exon 4 at codon 253 (GAG->AAG) resulting in an amino acid change from glutamic acid to lysine.

## MICA#066 (Asian)

MICA\*008 (A5.1) and MICA\*045 (A4) were assigned in complete consensus for this sample. This DNA was previously studied as sample #020 (2008) and sample #046 (2010). In the 2010 study, several laboratories were unable to distinguish MICA\*008 from MICA\*058. In this present study, there were no discrepancies. MICA\*008:01/\*008:04 was reported by 7 laboratories (1 SBT and 6 rSSO). MICA\*008:01 differs from MICA\*008:04 in the leader sequence with synonymous substitutions.

## MICA#067 (Hispanic)

MICA\*002 (A9) was assigned by a total of 8 laboratories for this sample, with 3 SBT laboratories reporting MICA\*002:01. This DNA was previously typed as sample #023 (2008). As in the 2008 study, over half the laboratories (n=14) in this present typing were unable to resolve MICA\*002 from MICA\*020, MICA\*052 or MICA\*055. MICA\*002, MICA\*020, and MICA\*055 are identical in their extra cellular domains, but differ in their transmembrane domain.

MICA\*015 was reported as the other MICA type. Three laboratories were unable to distinguish MICA\*015 from MICA\*020 and MICA\*055. MICA\*015 differs from MICA\*020 and MICA\*055 in exon 3 by a single amino acid substitution (AGG versus GGG) at codon 114.

## MICA#068 (Caucasian)

The consensus typing of this sample is MICA\*016 (A5) and MICA\*018 (A4). This DNA was previously typed as sample #028 (2009). In the 2009 study, 6 of the rSSO laboratories were unable to distinguish MICA\*016 from MICA\*019 and MICA\*033. In this present typing, MICA\*016 was reported in complete consensus. MICA\*018:01 was assigned by 11 laboratories and one laboratory reported MICA\*007:02. MICA\*018 differs from MICA\*007 at codon 24 ( $\alpha$ 1 domain) where MICA\*018 has threonine and MICA\*007 has alanine.

**NEXT MAILING DATE: February 6, 2013**

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Table 1: MICA typing results reported by participating laboratories.						
MICA#065 (Asian)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	234	Amador,Alexandra	*004/*012:01	*012:01/*067		rSSO
	16	Askar,Medhat	*004/*067	*012:01		rSSO
	3224	Chen,Dong-Feng	*004/*067	*012/*061		rSSO
	2549	Fagoaga,Omar	*004//012//061	*012/*061//067		rSSO
	762	Fischer&Mayr	*004	*012:01		SBT
	1647	Gautreaux,Micha	*004	*012:01-012:03/*061		rSSO
	8040	Gladman/Pellet/P	*004	*012:01		rSSO
	4337	Kim,Tai-Gyu	*004	*012		SSP
	836	KuKuruga,Debra	*004/*067	*012		rSSO
	791	Lacelle, Chantale	*004 (A6)	*012:01 (A4)		SBT
	278	Lee,Jar-How	*004/*067	*012		rSSO
	759	Lopez-Cepero,My	*004	*012		rSSO
	733	Mytilineos,Joannis	*004	*012:01		SBT
	5231	Nelson,Karen	*004	*012/*061		rSSO
	3966	Permpikul&Vejbae	*004	*012		SSP
	8030	Poulton,Kay V.	*004	*012:01-*012:03		rSSO
	3753	Reed,Elaine F.	*004	*012/*061		rSSO
	3798	Reinsmoen,Nancy	*004/*067	*012/*061		rSSO
	2518	Tambur,Anat	*004	*012	*061/*067	rSSO
	8053	Tyan,Dolly	*004/*067	*012:01		rSSO
	3775	Vidan-Jeras,Blank	*004/*067	*012/*061		rSSO
	1466	Yu,Neng	*004/*067	*012/*061		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#066 (Asian)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
	234	Amador,Alexandra	*008:01/*008:04	*045		rSSO
	16	Askar,Medhat	*008	*045		rSSO
	3224	Chen,Dong-Feng	*008	*045		rSSO
	2549	Fagoaga,Omar	*008:01/*008:04	*045		rSSO
	762	Fischer&Mayr	*008:01	*045	*008:04	SBT
	1647	Gautreaux,Micha	*008:01/*008:04	*045		rSSO
	8040	Gladman/Pellet/P	*008:01/*008:04	*045		rSSO
	4337	Kim,Tai-Gyu	*008	*045		SSP
	836	KuKuruga,Debra	*008	*045		rSSO
	791	Lacelle, Chantale	*008:01/*008:04 (A5.1)	*045 (A4)		SBT
	278	Lee, Jar-How	*008	*045		rSSO
	759	Lopez-Cepero, My	*008	*045		rSSO
	733	Mytilineos, Joannis	*008:01	*045	*008:02/*008:04	SBT
	5231	Nelson, Karen	*008	*045		rSSO
	3966	Permpikul&Vejbæ	*008	*045		SSP
	8030	Poulton, Kay V.	*008:01/*008:04	*045	*058	rSSO
	3753	Reed, Elaine F.	*008	*045		rSSO
	3798	Reinsmoen, Nancy	*008:01/*008:04	*045		rSSO
	2518	Tambur, Anat	*008	*045		rSSO
	8053	Tyan, Dolly	*008	*045		rSSO
	3775	Vidan-Jeras, Blank	*008	*045		rSSO
	1466	Yu, Neng	*008	*045		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 3: MICA typing results reported by participating laboratories.</b>						
<b>MICA#067 (Hispanic)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
	234	Amador,Alexandr	*002:01/*002:03/*015	*015/*020/*055		rSSO
	16	Askar,Medhat	*002	*015		rSSO
	3224	Chen,Dong-Feng	*002/*015/*020/*055	*015		rSSO
	2549	Fagoaga,Omar	*002/*015	*015///*020/*055		rSSO
	762	Fischer&Mayr	*002:01	*015		SBT,TA Cloning
	1647	Gautreaux,Micha	*002:01-*002:03/*020/*055	*015		rSSO
	8040	Gladman/Pellet/F	*002	*015		rSSO
	4337	Kim,Tai-Gyu	*002/*020/*055	*015		SSP
	836	KuKuruga,Debra	*002/*020/*055	*015		rSSO
	791	Lacelle, Chantal	*002:01 (A9)	*015 (A9)		SBT
	278	Lee,Jar-How	*002/*020/*055	*015		rSSO
	759	Lopez-Cepero,M	*002/*015/*020/*055	*015		rSSO
	733	Mytilneos,Joanni	*002:01	*015	*068	SBT
	5231	Nelson,Karen	*002/*015/*020/*055	*015		rSSO
	3966	Permpikul&Vejba	*002	*015		SSP
	8030	Poulton,Kay V.	*002:01/*002:03	*015	*020/*030/*052/*055	rSSO
	3753	Reed,Elaine F.	*002/*015/*020/*055	*015		rSSO
	3798	Reinsmoen,Nan	*002/*015/*020/*055	*015		rSSO
	2518	Tambur,Anat	*002	*015	*020/*055	rSSO
	8053	Tyan,Dolly	*002/*020/*055	*015		rSSO
	3775	Vidan-Jeras,Blan	*002/*015	*015/*020/*055		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).

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

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<b>Table 4: MICA typing results reported by participating laboratories.</b>						
<b>MICA#068 (Caucasian)</b>	<b>Ctr</b>	<b>Investigator</b>	<b>MICA* allele-1</b>	<b>MICA* allele-2</b>	<b>Others</b>	<b>Method</b>
	234	Amador,Alexandra	*016	*018:01		rSSO
	16	Askar,Medhat	*016	*018:01		rSSO
	3224	Chen,Dong-Feng	*016	*018		rSSO
	2549	Fagoaga,Omar	*016	*018:01		rSSO
	762	Fischer&Mayr	*016	*018:01		SBT
	1647	Gautreaux,Micha	*016	*018:01		rSSO
	8040	Gladman/Pellet/P	*016	*018:01		rSSO
	4337	Kim,Tai-Gyu	*016	*007:02		SSP
	836	KuKuruga,Debra	*016	*018		rSSO
	791	Lacelle, Chantale	*016 (A5)	*018:01 (A4)		SBT
	278	Lee,Jar-How	*016	*018		rSSO
	759	Lopez-Cepero,My	*016	*018		rSSO
	733	Mytilineos,Joannis	*016	*018		SBT
	5231	Nelson,Karen	*016	*018:01		rSSO
	3966	Permpikul&Vejbae	*016	*018		SSP
	8030	Poulton,Kay V.	*016	*018:01	*019/*033/*056	rSSO
	3753	Reed,Elaine F.	*016	*018		rSSO
	3798	Reinsmoen,Nancy	*016	*018:01		rSSO
	2518	Tambur,Anat	*016	*018		rSSO
	8053	Tyan,Dolly	*016	*018:01		rSSO
	3775	Vidan-Jeras,Blank	*016	*018		rSSO
	1466	Yu,Neng	*016	*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).

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