REPORT OF THE 10th UCLA INTERNATIONAL MICA EXCHANGE
May 5, 2010

MICA	37-40

Notice about the new changes to the HLA nomenclature:

As you are aware, the new HLA nomenclature with colon delimited HLA allele names was officially introduced in April, as published in the latest report by the WHO Nomenclature Committee for Factors of the HLA System (1), and implemented with the April 2010 release of the IMGT/HLA Database. To accommodate the increasing number of new HLA alleles, the decision was made by the committee to use colons within the allele names to act as delimiters. The lists of old and new allele names are available in the published nomenclature report in the April issue of Tissue Antigens, on the IMGT/HLA Database at www.ebi.ac.uk/imgt/hla, and at http://hla.alleles.org.

Our MICA Exchange reports will transition to the exclusive use of the new nomenclature by the end of this year; at this time, you may continue to use the old nomenclature, if needed. Please begin to familiarize yourself with the new nomenclature as you will need to use the new nomenclature to search in the IMGT/HLA Database.

We thank all participating laboratories in the UCLA International MICA Exchange Program. For the 10th MICA Exchange, 4 DNA samples were shipped to 28 laboratories, and MICA typing results were received from 24 of the labs (Table 1). Sixteen laboratories used a reverse sequence-specific oligonucleotide (rSSO) hybridization method, 3 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.

MICA#037

MICA*010 (A5) was present in this sample. Twelve laboratories reported MICA*010/*054 and 8 labs reported MICA*010. MICA*010 and MICA*054 only differ at position 268 in the $\alpha 3$ domain, where MICA*054 has a glycine and MICA*010 has a serine. Three laboratories reported MICA*016/*019/*033/*056 by rSSOP. MICA*010 differs from MICA*016, MICA*019, MICA*033, and MICA*056 at position 6 (exon 2) in the alpha 1 chain where MICA*010 has a proline while the other MICA alleles (MICA*016/*019/*033/*056) have an arginine. The substitution of proline results in the loss of cell surface expression of MICA*010. MICA*033 also differs from MICA*010, MICA*016, MICA*019, MICA*054, and MICA*056 at position 124, where a threonine is replaced by a serine.

The consensus typing of the second allele is MICA*011 (A6). One laboratory assigned MICA*002. MICA*011 differs from MICA*002 at positions 151 and 271 where MICA*011 contains a valine and an alanine, respectively, compared to methionine and proline in MICA*002.

MICA#038 (Black)

The consensus typing of this sample is MICA*008 and MICA*041. MICA*008 belongs to the MICA-A5.1 group which contains 5 triplet repeats plus 1 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, making it difficult to distinguish MICA*027 from MICA*008 if only exons 2-4 are analyzed.

Only 1 laboratory assigned MICA*002, instead of MICA*041 (A9). MICA*002 differs from MICA*041 at position 26 where MICA*002 contains a valine compared to a glycine in MICA*041.

MICA#039 (Black)

MICA*002 (A9) was one allele present in this sample from a Black donor. Two SSP labs reported MICA*002, and MICA*00201 was reported by 4 labs performing SBT and 1 lab using rSSO. One laboratory assigned MICA*015 only, whereas the remaining 16 laboratories reported combinations of the following alleles: *002, *015, *020, *030, and *052. MICA*002, MICA*020, MICA*030, and MICA*052 are identical in their extra cellular domains, but differ in their transmembrane domains.

The consensus typing of the second allele is MICA*015. MICA*015 differs from MICA*002 and MICA*020 at position 114 (exon 3) where an arginine is replaced by a glycine. 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#040 (Black)

MICA*008 (A5.1) and MICA*009 (A6) were present in this sample. MICA*008 was reported in consensus by 16 laboratories, with 3 labs reporting MICA*00801. Another 5 laboratories assigned MICA*008/*058.

Fifteen laboratories reported MICA*009/*049 and 9 labs reported MICA*009 with 5 reporting MICA*00902. MICA*009 is identical to MICA*049 except at position 333 (exon 6) in the transmembrane domain, where MICA*009 has a threonine while MICA*049 has a methionine.

References

1. Marsh SGE, Albert ED, Bodmer WF, et al. Nomenclature for factors of the HLA system, 2010. Tissue Antigens 2010;75:291.

Table 1: MICA typing results reported by participating laboratories.						
MICA #037	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	8050	Baxter-Lowe,Lee	*010	*011	*054	rSSO
	3224	Chen,Dong-Feng	*010/*054	*011		rSSO
	8030	Davidson&Poulton	*016/*019/*033/*056	*011		rSSO
	1647	Gautreaux,Micha	*016/*019/*033/*056	*011		rSSO
	8040	Gladman/Pellet/P	*010	*011		SSP
	234	Gomez,Carmen	*010/*054	*011		rSSO
	4337	Kim,Tai-Gyu	*010	*002		SSP
	836	KuKuruga,Debra	*010/*054	*011		rSSO
	278	Lee,Jar-How	*010/*054	*011		rSSO
	759	Lopez-Cepero,My	*010/*054	*011		rSSO
	8055	Madrigal,J.A.	*010 (A5)	*011 (A6)		SBT
	733	Mytilineos,Joannis	*010	*011		SBT
	5231	Nelson,Karen	*010/*054	*011		rSSO
	3966	Permpikul&Vejbae	*010	*011		SSP
	16	Pidwell/Askar	*010 (A5)	*011 (A6)		SSP,SBT
	8057	Ray&Balazs	*010/*054	*011		rSSO
	3753	Reed,Elaine F.	*010/*054	*011		rSSO
	3625	Rees,Tracey	*010	*011		
	3798	Reinsmoen,Nancy	*016/*019/*033/*056	*011		rSSO
	791	Stastny,Peter	*010 (A5)	*011 (A6)		SBT
	2518	Tambur,Anat	*010/*054	*011		rSSO
	8053	Tyan,Dolly	*010/*054	*011		rSSO
	3775	Vidan-Jeras,Blank	*010/*054	*011		rSSO
	1466	Yu,Neng	*010/*054	*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 #038 (Black)	Ctr	Investigator	MICA* allele-1	MICA* allele-2	Others	Method
	8050	Baxter-Lowe,Lee	*00801	*041	*00804	rSSO
	3224	Chen,Dong-Feng	*008	*041		rSSO
	8030	Davidson&Poulton	*008	*041		rSSO
	1647	Gautreaux,Micha	*008	*041		rSSO
	8040	Gladman/Pellet/P	*00801	*041		SSP
	234	Gomez,Carmen	*008	*041		rSSO
	4337	Kim,Tai-Gyu	*008	*002		SSP
	836	KuKuruga,Debra	*008	*041		rSSO
	278	Lee,Jar-How	*008	*041		rSSO
	759	Lopez-Cepero,My	*008	*041		rSSO
	8055	Madrigal,J.A.	*008(A5.1)	*041 (A9)		SBT
	733	Mytilineos,Joannis	*00801	*041	*00804	SBT
	5231	Nelson,Karen	*008	*041		rSSO
	3966	Permpikul&Vejbae	*008	*041		SSP
	16	Pidwell/Askar	*00801/*00804 (A5.1)	*041 (A9)		SSP,SBT
	8057	Ray&Balazs	*008/*027	*041		rSSO
	3753	Reed,Elaine F.	*008	*041		rSSO
	3625	Rees,Tracey	*008	*041		
	3798	Reinsmoen,Nancy	*008	*041		rSSO
	791	Stastny,Peter	*00801 (A5.1)	*041 (A9)	*00804 (A5.1)	SBT
	2518	Tambur,Anat	*008	*041		rSSO
	8053	Tyan,Dolly	*008	*041		rSSO
	3775	Vidan-Jeras,Blank	*008	*041		rSSO
	1466	Yu,Neng	*008	*041		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 #039 (Black)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**	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
	8050	Baxter-Lowe,Lee	*00201	*015		rSSO	
	3224	Chen,Dong-Feng	*002/*015/*020/*030+	*015		rSSO	
	8030	Davidson&Poulton	*002/*020	*002/*020		rSSO	
	1647	Gautreaux,Micha	*002/*015/*020/*030+	*015		rSSO	
	8040	Gladman/Pellet/P	*015	*015		SSP	
	234	Gomez,Carmen	*002/*015/*020/*030+	*015		rSSO	
	4337	Kim,Tai-Gyu	*002			SSP	
	836	KuKuruga,Debra	*002/*015/*020/*030+	*015		rSSO	
	278	Lee,Jar-How	*002/*015/*020/*030+	*015		rSSO	
	759	Lopez-Cepero,My	*002/*015/*020/*030+	*015		rSSO	
	8055	Madrigal,J.A.	*00201 (A9)	*015 (A9)	*052 (A9)	SBT	
	733	Mytilineos,Joannis	*00201	*015		SBT	
	5231	Nelson,Karen	*002/*015/*020/*030+	*015		rSSO	
	3966	Permpikul&Vejbae	*002	*015		SSP	
	16	Pidwell/Askar	*00201 (A9)	*015 (A9)		SSP,SBT	
	8057	Ray&Balazs	*002/*020	*015	*052, *055	rSSO	
	3753	Reed,Elaine F.	*002/*015/*020/*030+	*015		rSSO	
	3625	Rees,Tracey	*015/*00201/*020/*052+	*015			
	3798	Reinsmoen,Nancy	*002/*015/*020/*030+	*015		rSSO	
	791	Stastny,Peter	*00201 (A9)	*015 (A9)		SBT	
	2518	Tambur,Anat	*002/*015/*020/*030+	*015		rSSO	
	8053	Tyan,Dolly	*002/*015/*020/*030+	*015		rSSO	
	3775	Vidan-Jeras,Blank	*002/*020/*030/*052+	*015		rSSO	
	1466	Yu,Neng	*002/*015/*020/*030+	*015		rSSO	

		Table 4: MICA typing results reported by participating laboratories.				
MICA #040 (Black)	**Ctr**	**Investigator**	**MICA* allele-1**	**MICA* allele-2**	**Others**	**Method**
	8050	Baxter-Lowe,Lee	*027	*00901	*049	rSSO
	3224	Chen,Dong-Feng	*008/*058	*009/*049		rSSO
	8030	Davidson&Poulton	*008	*009/*049		rSSO
	1647	Gautreaux,Micha	*008	*009/*049		rSSO
	8040	Gladman/Pellet/P	*00801	*00901/02		SSP
	234	Gomez,Carmen	*008	*009/*049		rSSO
	4337	Kim,Tai-Gyu	*008	*009		SSP
	836	KuKuruga,Debra	*008	*009/*049		rSSO
	278	Lee,Jar-How	*008	*009/*049		rSSO
	759	Lopez-Cepero,My	*008	*009/*049		rSSO
	8055	Madrigal,J.A.	*008 (A5.1)	*00902 (A6)		SBT
	733	Mytilineos,Joannis	*00801	*00902	*00804	SBT
	5231	Nelson,Karen	*008/*058	*009/*049		rSSO
	3966	Permpikul&Vejbae	*024	*009		SSP
	16	Pidwell/Askar	*00801/*00804 (A5.1)	*00902 (A6)		SSP,SBT
	8057	Ray&Balazs	*008/*027	*009/*049		rSSO
	3753	Reed,Elaine F.	*008/*058	*009/*049		rSSO
	3625	Rees,Tracey	*008	*00902		
	3798	Reinsmoen,Nancy	*008	*009/*049		rSSO
	791	Stastny,Peter	*00801 (A5.1)	*00902 (A6)	*00804 (A5.1)	SBT
	2518	Tambur,Anat	*008/*058	*009/*049		rSSO
	8053	Tyan,Dolly	*008	*009/*049		rSSO
	3775	Vidan-Jeras,Blank	*008/*058	*009/*049		rSSO
	1466	Yu,Neng	*008	*009/*049		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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