REPORT OF THE 46th INTERNATIONAL MICA EXCHANGE

NOVEMBER 1, 2023

MICA 199 - 204

For the 46th MICA Exchange, 6 DNA samples (MICA #199 - MICA#204) were shipped to 16 laboratories worldwide. MICA typing results were received from all 16 laboratories. Results are summarized on Table 1 and individual laboratory results are listed on tables 2 - 7.

MICA #199. MICA*001-MICA*008 was the reported MICA genotype for this sample from a Hispanic donor. MICA*001 was reported in complete consensus, with 9 labs assigning MICA*001:01.

MICA*008 was assigned by 12 labs (80%). Among them, 1 lab reported MICA*008:01:01 and 8 labs reported MICA*008:01. MICA*008/*088N was assigned by 2 labs. MICA*008N differs from MICA*008 by a single nucleotide substitution in exon 4 at codon 229 (CAG → TAG), resulting in a premature stop codon.

MICA #200. MICA*004-MICA*015 was the reported MICA genotype for this sample from a Black donor. MICA*004 was assigned by 100%, with 1 lab assigning MICA*004:01:01 and 8 labs assigning MICA*004:01.

MICA*015 (94%) was assigned as the second MICA allele, with 8 labs assigning MICA*015:01.

MICA #201. MICA*007-MICA*072 was the reported MICA genotype for this sample from a Caucasian donor. MICA*007 was assigned by 13 labs (81%). Among them, 9 labs assigned MICA*007:01. Three labs were unable to resolve MICA*007 from MICA*026 and MICA*100. MICA*026 and MICA*007 differ by the number of GCT repeats in codon 5. MICA*026 has 6 GCT repeats whereas MICA*007 has 4 GCT repeats. MICA*100 differs from MICA*007 by a single nucleotide substitution in exon 5 at codon 284 (TGG → GGG), resulting in an amino acid change from tryptophan to glycine.

MICA*072 was reported in complete consensus as the second MICA allele, with 9 labs assigning MICA*072:01.

MICA #202. There was no consensus achieved for this sample from a Filipino donor. MICA*266 was assigned by 10 labs reporting by NGS. MICA*012 was reported by 5 labs and 1 lab noted a variant of MICA*012 was present. MICA*266 differs from MICA*012 by a single nucleotide substitution in exon 4 at codon 273 (CCC → CTC), where proline is replaced by leucine in MICA*266. This is the first time MICA*266 was typed in the Exchange.

MICA #203. MICA*002-MICA*018 was the reported MICA genotype for this sample from a Hispanic donor. MICA*002 was assigned by 11 labs, with 8 labs assigning MICA*002:01 and 1 lab assigning MICA*002:01:03. The remainder of the labs (n = 5) reported a number of ambiguities.

MICA*018 was reported by 100%, with 10 labs assigning MICA*018:01. One lab was unable to resolve MICA*018:01 from MICA*018:02. MICA*018:02 differs from MICA*018:01 by a single nucleotide substitution in exon 4 at codon 191 (AGC → AGT), resulting in a synonymous substitution.

MICA #204. MICA*008-MICA*018 was the reported MICA genotype for this sample from a Hispanic donor. MICA*008 was reported by 13 labs, with 8 labs assigning MICA*008:04 and 1 lab assigning MICA*008:04:01. Two labs assigned MICA*008/*088N.

MICA*018 was assigned in complete consensus, with 9 labs assigning MICA*018:01 and 1 lab assigning MICA*018:01:03. MICA*018:01/*018:02 was assigned by 1 lab.

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Table 1. Summary of 46th MICA Exchange #199 - #204

MICA#199	
16 labs	
Allele-1	**%(n)**
*001:01	56(9)
*001	44(7)
16 labs	
Allele-2	**%(n)**
*008:01:01	6 (1)
*008:01	50(8)
*008	19(3)
*008:01/*008:03/*008:04	6 (1)
*008/*088N	13(2)
*008/*027/*048/*087/*096N/*102/*103	6 (1)

MICA#200	
16 labs	
Allele - 1	**%(n)**
*004:01:01	6 (1)
*004:01	50(8)
*004	44(7)
16 labs	
Allele - 2	**%(n)**
*015:01	50(8)
*015	44(7)
*002	6 (1)

MICA#201	
16 labs	
Allele - 1	**%(n)**
*007:01	56(9)
*007:01/*007:10	6 (1)
*007	19(3)
*007/*026	13(2)
*007/*026/*100	6 (1)
16 labs	
Allele - 2	**%(n)**
*072:01:01	6 (1)
*072:01	50(8)
*072	44(7)

MICA#202	
16 labs	
Allele-1	**%(n)**
*266	63(10)
*012:01	12(2)
*012	19(3)
*012new	6 (1)

MICA#203	
16 labs	
Allele - 1	**%(n)**
*002:01:03	6 (1)
*002:01	50(8)
*002	13(2)
*002:01/*002:02/*002:08/*110	6 (1)
*002/*020/*055	6 (1)
*002/*020/*055/*086/*089/*090/*091	13(2)
*002/*020/*023/*052/*055/*089/*090	6 (1)
16 labs	
Allele - 2	**%(n)**
*018:01	63(10)
*018:01/*018:02	6 (1)
*018	31(5)

MICA#204	
16 labs	
Allele - 1	**%(n)**
*008:04:01	6 (1)
*008:04	50(8)
*008	19(3)
*008:01/*008:03/*008:04	6 (1)
*008/*088N	13(2)
*008/*027/*048/*087/*102/*103/*104	6 (1)
16 labs	
Allele - 2	**%(n)**
*018:01:03	6 (1)
*018:01	56(9)
*018:01/*018:02	6 (1)
*018	31(5)

Table 2. MICA typing results reported by participating laboratories					
MICA #199 (Hispanic)	CTR	Allele-1	Allele-2	Others	Method
	733	*001:01	*008:01		NGS
	762	*001:01	*008:01		NGS
	3753	*001	*008/*088N		SSO
	3798	*001	*008		NGS
	3966	*001	*008		SSP
	4337	*001	*008		SSP
	4345	*001	*008/*027/*048/*087/*096N/*102/*103		SBT
	5133	*001:01	*008:01		NGS
	8022	*001:01	*008:01		NGS
	8035	*001:01	*008:01		NGS
	8047	*001:01	*008:01/*008:03/*008:04		NGS
	8073	*001:01	*008:01:01		NGS
	8086	*001	*008:01		
	8105	*001:01	*008:01		NGS
	8110	*001	*008/*088N		
	8135	*001:01	*008:01		NGS

Table 3. MICA typing results reported by participating laboratories					
MICA #200 (Black)	**CTR**	**Allele-1**	**Allele-2**	**Others**	**Method**
	733	*004:01	*015		NGS
	762	*004:01	*015:01		NGS
	3753	*004	*015		SSO
	3798	*004	*015		NGS
	3966	*004	*015		SSP
	4337	*004	*015		SSP
	4345	*004	*002	new allel, ex 3 nt 84	SBT
	5133	*004:01	*015:01		NGS
	8022	*004:01	*015:01		NGS
	8035	*004:01	*015:01		NGS
	8047	*004:01	*015:01		NGS
	8073	*004:01:01	*015:01		NGS
	8086	*004	*015		
	8105	*004:01	*015:01		NGS
	8110	*004	*015		
	8135	*004:01	*015:01		NGS

Table 4. MICA typing results reported by participating laboratories					
MICA # 201 (Caucasian)	**CTR**	**Allele-1**	**Allele-2**	**Others**	**Method**
	733	*007:01	*072:01		NGS
	762	*007:01	*072:01		NGS
	3753	*007/*026	*072		SSO
	3798	*007	*072		NGS
	3966	*007	*072	*026	SSP
	4337	*007	*072		SSP
	4345	*007/*026/*100	*072		SBT
	5133	*007:01	*072:01		NGS
	8022	*007:01	*072:01		NGS
	8035	*007:01	*072:01		NGS
	8047	*007:01/*007:10	*072:01		NGS
	8073	*007:01	*072:01:01		NGS
	8086	*007:01	*072		
	8105	*007:01	*072:01		NGS
	8110	*007/*026	*072		
	8135	*007:01	*072:01		NGS

Table 5. MICA typing results reported by participating laboratories					
MICA #202 (Filipino)	CTR	Allele-1	Allele-2	Others	Method
	733	*266			NGS
	762	*266			NGS
	3753	*012	*012/018		SSO
	3798	*266	*266		NGS
	3966	*012	*012	*018	SSP
	4337	*012:01	*012:01		SSP
	4345	*012new		*new allel, ex 4 nt 274	SBT
	5133	*266			NGS
	8022	*266	DEL		NGS
	8035	*266	-		NGS
	8047	*266	*266		NGS
	8073	*266			NGS
	8086	*012:01	Del	*MICA-MICB null haplotype	
	8105	*266	*266		NGS
	8110	*012	*012/018		
	8135	*266	*266		NGS

Table 6. MICA typing results reported by participating laboratories					
MICA# 203 (Hispanic)	**CTR**	**Allele-1**	**Allele-2**	**Others**	**Method**
	733	*002:01	*018:01		NGS
	762	*002:01	*018:01		NGS
	3753	*002/*020/*055/*086/*089/*090/*091	*018	*092/*093	SSO
	3798	*002	*018		NGS
	3966	*002	*018	*020	SSP
	4337	*002/*020/*055	*018:01		SSP
	4345	*002/*020/*023/*052/*055/*089/*090	*018		SBT
	5133	*002:01	*018:01		NGS
	8022	*002:01	*018:01		NGS
	8035	*002:01	*018:01		NGS
	8047	*002:01/*002:02/*002:08/*110	*018:01/*018:02		NGS
	8073	*002:01:03	*018:01		NGS
	8086	*002:01	*018:01		
	8105	*002:01	*018:01		NGS
	8110	*002/*020/*055/*086/*089/*090/*091	*018	*092/*093	
	8135	*002:01	*018:01		NGS

Table 7. MICA typing results reported by participating laboratories					
MICA #204 (Hispanic)	**CTR**	**Allele-1**	**Allele-2**	**Others**	**Method**
	733	*008:04	*018:01		NGS
	762	*008:04	*018:01		NGS
	3753	*008/*088N	*018		SSO
	3798	*008	*018		NGS
	3966	*008	*018		SSP
	4337	*008	*018:01		SSP
	4345	*008/*027/*048/*087/*102/*103/*104	*018		SBT
	5133	*008:04	*018:01		NGS
	8022	*008:04	*018:01		NGS
	8035	*008:04	*018:01		NGS
	8047	*008:01/*008:03/*008:04	*018:01/*018:02		NGS
	8073	*008:04:01	*018:01:03		NGS
	8086	*008:04	*018:01		
	8105	*008:04	*018:01		NGS
	8110	*008/*088N	*018		
	8135	*008:04	*018:01		NGS