

REPORT OF THE 40th INTERNATIONAL MICA EXCHANGE

NOVEMBER 6, 2020

MICA

163 - 168

For the 40th MICA Exchange, 6 DNA samples (MICA #163 - MICA#168) were shipped to 18 laboratories worldwide. MICA typing results were received

from 15 laboratories. Results are summarized on Table 1 and individual laboratory results are listed on tables 2 - 7.

MICA #163. MICA*002 and MICA*004 was the reported MICA genotype for this sample from a Hispanic donor. MICA*002 was reported by 10 labs, with 8 (7 NGS, 2 SBT) of them assigning MICA*002:01. As for the remaining labs, 3 labs assigned MICA*002/*020/*055 and 2 assigned MICA*002/*020/*055/*089/*090/*091/*092. MICA*020 (A10), MICA*055 (A8), and MICA*089 (A6) are identical to MICA*002 (A9) in their extracellular domains, but differ by the number of GCT repeats in their transmembrane domains (exon 5). MICA*004 was assigned in complete consensus as the second MICA allele, with 5 labs (3 NGS, 2 SBT) assigning MICA*004:01.

MICA #164. MICA*001 and MICA*010 was the reported MICA genotype for this sample from a Caucasian donor. MICA*001 was assigned in complete consensus, with 1 NGS lab assigning MICA*001:01.

The second MICA allele present, MICA*010, was reported by 10 labs, with 8 labs (6 NGS, 2 SBT) assigning MICA*010:01. MICA*010/*069 was reported by 4 labs, while MICA*010:01/*065/*069 was assigned by 1 lab. MICA*069 differs from MICA*010:01 in exon 6 by a single nucleotide substitution at codon 350 (GCT → GAT), which results in an amino acid change from alanine to aspartic acid in MICA*069. MICA*065, on the other hand, differs from MICA*010:01 by a single amino acid (CGC → TGC) substitution in exon 4 at codon 190, where arginine is replaced by cysteine in MICA*065.

MICA #165. MICA*012 and MICA*017 was the reported MICA genotype for this sample from a Caucasian donor. MICA*012 was assigned in complete consensus, with 10 labs assigning MICA*012:01. Thirteen labs assigned MICA*017 as the second MICA allele. Two labs reporting by SSO were unable

to resolve MICA*017 from MICA*095. MICA*017 and MICA*095 differ by the number of GCT repeats in their transmembrane domains (exon 5), in which MICA*017 has 9 GCT repeats where as MICA*095 has 6 GCT repeats.

MICA #166. MICA*041 was assigned in complete consensus in this sample from a Hispanic donor. The second MICA allele present, however, remained unresolved. Eight labs assigned MICA*041, 1 lab assigned MICA*002, 2 assigned MICA*002/*041 and 2 assigned MICA*002/*020/*055/*086. MICA*041 differs from MICA*002 in exon 2 by a single amino acid substitution at codon 26 (GTA → GGA), resulting in an amino acid change from valine to glycine in MICA*041.

MICA #167. MICA*007 and MICA*029 was the reported MICA genotype for this sample from an unknown donor. MICA*007 was assigned by 11 labs, with 6 of them (4 NGS, 2 SBT) assigning MICA*007:01. Two labs reporting by SSO assigned MICA*007/*029. MICA*029 differs from MICA*007 by 2 nucleotide substitutions, one in exon 3 at codon 142 (GTC → ATC) and the other in exon 4 at codon 191 (AGT → AGC). The first results in an amino acid change from valine to isoleucine and the later results in a silent mutation.

MICA*029 was assigned in complete consensus as the second MICA allele, with 6 labs (4 NGS, 2 SBT), assigning MICA*029:01.

MICA #168. MICA*006 and MICA*016 was the reported MICA genotype for this sample from a Hispanic donor. Good agreement (100%) was achieved among labs in the assignment of MICA*006 and MICA*016, with 1 NGS lab assigning MICA*006:01.

NEXT MAILING DATE: February 3, 2021

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Table 1. Summary of 40th MICA Exchange #163-#168

MICA#163	
15 labs	
Allele-1	%(n)
*002:01	53(8)
*002:01/*002:02	7 (1)
*002	7 (1)
*002:01/*020/*055	13 (2)
*002/*020/*055	7 (1)
*002/*020/*055/*089/*090/*091/*092	7 (1)
*002/*020/*055/*089-093	7 (1)
15 labs	
Allele-2	%(n)
*004:01	33(5)
*004	67(10)

MICA#164	
15 labs	
Allele - 1	%(n)
*001:01	7 (1)
*001	93(13)
15 labs	
Allele - 2	%(n)
*010:01	53(8)
*010	13(2)
*010:01/*069	7 (1)
*010/*069	20(3)
*010:01/*065/*069	7 (1)

MICA#165	
15 labs	
Allele - 1	%(n)
*012:01	67(10)
*012	27(4)
*012:01/*012:04	7 (1)
15 labs	
Allele - 2	%(n)
*017	87(13)
*017/*095	13(2)

MICA#166	
13 labs	
Allele-1	%(n)
*041	100(13)
13 labs	
Allele-2	%(n)
*041	61(8)
*002/*041	15(2)
*002	8 (1)
*002:01/*020/*055/*086	8 (1)
*002/*020/*055/*086	8 (1)

MICA#167	
13 labs	
Allele - 1	%(n)
*007:01	46(6)
*007	23(3)
*007:01/*007:02	8 (1)
*007:01/*007:07	8 (1)
*007/*029	15(2)
13 labs	
Allele - 2	%(n)
*029:01	46(6)
*029	46(6)
*029:01/*029:02	8 (1)

MICA#168	
14 labs	
Allele - 1	%(n)
*006:01	7 (1)
*006	93(13)
14 labs	
*016	100(14)

Table 2. MICA typing results reported by participating laboratories					
MICA # 163 (Hispanic)	CTR	Allele-1	Allele-2	Others	Method
	234	*002:01/*020/*055	*004		SSO
	733	*002:01	*004:01		SBT
	762	*002:01	*004:01		NGS
	3753	*002/*020/*055/*089/*090/*091/*092	*004	*093	SSO
	3798	*002/*020/*055/*089-*093	*004		SSO
	3966	*002	*004	*020/*055	SSO
	4337	*002/*020/*055	*004		SSP
	4345	*002/*020/*055	*004		SSO
	5133	*002:01	*004:01		NGS
	8035	*002:01	*004:01		NGS
	8047	*002:01/*002:02	*004		NGS
	8073	*002:01	*004		NGS
	8080	*002:01	*004		NGS
	8086	*002:01	*004:01		SBT
	8105	*002:01	*004		NGS

Table 3. MICA typing results reported by participating laboratories					
MICA # 164 (Caucasian)	CTR	Allele-1	Allele-2	Others	Method
	234	*001	*010:01/*069		SSO
	733	*001	*010:01	*069	SBT
	762	*001	*010:01		NGS
	3753	*001	*010/*069		SSO
	3798	*001	*010/*069		SSO
	3966	*001	*010	*069	SSO
	4337	*001	*010		SSP
	4345	*001	*010/*069		SSO
	5133	*001	*010:01		NGS
	8035	*001:01	*010:01		NGS
	8047	*001	*010:01/*065/*069		NGS
	8073	*001	*010:01		NGS
	8080	*001	*010:01		NGS
	8086	*001	*010:01		SBT
	8105	*001	*010:01		NGS

Table 4. MICA typing results reported by participating laboratories					
MICA # 165 (Caucasian)	CTR	Allele-1	Allele-2	Others	Method
	234	*012:01	*017		SSO
	733	*012:01	*017		SBT
	762	*012:01	*017		NGS
	3753	*012	*017/*095		SSO
	3798	*012	*017/*095		SSO
	3966	*012	*017		SSO
	4337	*012:01	*017		SSP
	4345	*012	*017		SSO
	5133	*012:01	*017		NGS
	8035	*012:01	*017		NGS
	8047	*012:01/*012:04	*017		NGS
	8073	*012:01	*017		NGS
	8080	*012:01	*017		NGS
	8086	*012:01	*017		SBT
	8105	*012:01	*017		NGS

Table 5. MICA typing results reported by participating laboratories					
MICA # 166 (Hispanic)	CTR	Allele-1	Allele-2	Others	Method
	234	*041	*002:01/*020/*055/*086		SSO
	733	*041			SBT
	762	*041			NGS
	3753	*041	*002/*041		SSO
	3798	*041	*002/*041		SSO
	3966	*041	*002		SSO
	4337	*041	*041		SSP
	4345	*041	*002/*020/*055/*086		SSO
	5133	*041	*041		NGS
	8035	*041	-		NGS
	8047	*041	*041		NGS
	8073	No amplification			NGS
	8080	NT			NGS
	8086	*041	*041		SBT
	8105	*041			NGS

Table 6. MICA typing results reported by participating laboratories					
MICA # 167 (Unknown)	CTR	Allele-1	Allele-2	Others	Method
	234	*007:01/*007:07	*029		SSO
	733	*007:01	*029:01	*007:02, *029:02	SBT
	762	*007:01	*029:01		NGS
	3753	*007/*029	*029		SSO
	3798	*007/*029	*029		SSO
	3966	*007	*029		SSO
	4337	*007	*029		SSP
	4345	*007	*029		SSO
	5133	*007:01	*029:01		NGS
	8035	*007:01	*029:01	*007:02, *029:02	NGS
	8047	*007:01/*007:02	*029:01/*029:02		NGS
	8073			No amplification	NGS
	8080	NT			NGS
	8086	*007:01	*029:01		SBT
	8105	*007:01	*029:01		NGS

Table 7. MICA typing results reported by participating laboratories					
MICA # 168 (Hispanic)	CTR	Allele-1	Allele-2	Others	Method
	234	*006	*016		SSO
	733	*006	*016		SBT
	762	*006	*016		NGS
	3753	*006	*016		SSO
	3798	*006	*016		SSO
	3966	*006	*016		SSO
	4337	*006	*016		SSP
	4345	*006	*016		SSO
	5133	*006	*016		NGS
	8035	*006:01	*016		NGS
	8047	*006	*016		NGS
	8073	*006	*016		NGS
	8080	NT			NGS
	8086	*006	*016		SBT
	8105	*006	*016		NGS