

# REPORT OF THE 39<sup>th</sup> INTERNATIONAL MICA EXCHANGE

## MAY 11, 2020

MICA

157 - 162

For the 39<sup>th</sup> MICA Exchange, 6 DNA samples (MICA #157 - MICA#162) were shipped to 19 laboratories worldwide. MICA typing results were received

from 18 laboratories. Results are summarized on Table 1 and individual laboratory results are listed on tables 2 - 7.

**MICA #157.** MICA\*002 and MICA\*027 was the consensus type for this cell from a Caucasian donor. MICA\*002 was reported by 11 labs, with 8 assigning MICA\*002:01. A number of labs (n = 7) were unable to resolve MICA\*002 from MICA\*020 and MICA\*055. MICA\*002 is identical to MICA\*020 and MICA\*055, except for the number of GCT repeats in its transmembrane domain (exon 5). MICA\*002 has 9 GCT repeats, where as MICA\*020 has 10 GCT repeats and MICA\*055 has 8 GCT repeats.

MICA\*027 was reported by 11 labs, while MICA\*027/\*048 was reported by 7 labs. MICA\*048 differs from MICA\*027 by a single nucleotide substitution in exon 5 at codon 316 (GAG → GAT). The substitution results in an amino acid change from glutamic acid in MICA\*027 to aspartic acid in MICA\*048.

**MICA #158.** MICA\*008 and MICA\*011 was the reported consensus type for this sample from an African American donor. MICA\*008 was reported by 16 labs, with 7 labs assigning MICA\*008:01. A number of labs (n = 4) were unable to resolve MICA\*008:01 from MICA\*008:03, MICA\*008:04 and/or MICA\*088N. MICA\*008:03 and MICA\*008:04 each differ from MICA\*008:01 by a single nucleotide substitution. For MICA\*008:03 the substitution in exon 4 at codon 193 (GCC → GCA), and for MICA\*008:04 its in exon 1 (TTC → TTT). Each results in a synonymous substitution. MICA\*011 was reported in complete consensus.

**MICA #159.** MICA\*001 and MICA\*004 was the reported consensus type for this sample a Hispanic donor. Each were well assigned by 100% of labs.

**MICA #160.** MICA\*012 was the reported consensus type for this sample from an Asian donor. MICA\*012 was reported in complete consensus, with 11 labs reporting MICA\*012:01. Interestingly, only 11 labs reported this sample as MICA\*012 homozygous. Five labs assigned the second allele as MICA\*012/\*018, and 2 reported it as MICA\*018. Two nucleotide substitutions distinguish MICA\*018:01 from MICA\*012:01. One is in exon 3 at codon 151 (CTC → CAC) where leucine is replaced with histidine in MICA\*018:01. The second substitution is in exon 6 at codon 360 (GCC → ACC), which results in an amino acid change from alanine to threonine in MICA\*018:01.

**MICA #161.** MICA\*010 and MICA\*015 was the reported consensus type for this sample from an African American donor. MICA\*010 was reported by 11 labs, with 8 labs assigning MICA\*010:01. MICA\*010/\*069 was reported by 6 labs and 1 lab reported MICA\*010:01/\*065/\*069. MICA\*069 differs from MICA\*010:01 by a single nucleotide substitution in exon 5 at codon 350 (GCT → GAT), which results in alanine being replaced by aspartic acid in MICA\*069. MICA\*015, was reported in complete consensus.

**MICA #162.** MICA\*027 was reported in good agreement (> 80%) in this sample from a donor of unknown ethnicity. Ten labs assigned MICA\*027 and 5 labs assigned MICA\*027/\*048. No consensus was achieved for Allele-1 in this sample, as 5 labs assigned MICA\*009, 5 assigned MICA\*049, and 5 were unable to resolve MICA\*009 from MICA\*049. As result, this second allele was not graded. MICA\*049 differs from MICA\*009 by a single nucleotide substitution in exon 6 at codon 333 (ACG → ATG), in which threonine is replaced by methionine in MICA\*049.

**NEXT MAILING DATE: August 5, 2020**

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**Table 1. Summary of 39th MICA Exchange #157-#162**

<b>MICA#157</b>	
18 labs	
<b>Allele-1</b>	<b>%(n)</b>
*002:01	44(8)
*002:01/*002:02	6 (1)
*002	11(2)
*002:01/*020/*055	11(2)
*002/*020/*055	22(4)
*002/*020/*027/*048	6(1)
18 labs	
<b>Allele-2</b>	<b>%(n)</b>
*027	61(11)
*027/*048	27(5)
*008:03/*027/*048	6 (1)
*027/*048/*055	6 (1)

<b>MICA#158</b>	
18 labs	
<b>Allele - 1</b>	<b>%(n)</b>
*008:01:01	6 (1)
*008:01	33(6)
*008:01/*008:04	11(2)
*008	33(6)
*008:01/*008:03/*008:04	6 (1)
*008:01/*008:04/*088N	6 (1)
*008/*088N	6 (1)
18 labs	
<b>Allele - 2</b>	<b>%(n)</b>
*011	100(18)

<b>MICA#159</b>	
18 labs	
<b>Allele - 1</b>	<b>%(n)</b>
*001	100(18)
18 labs	
<b>Allele - 2</b>	<b>%(n)</b>
*004	100(18)

<b>MICA#160</b>	
18 labs	
<b>Allele-1</b>	<b>%(n)</b>
*012:01	61(11)
*012:01/*012:04	6 (1)
*012	33(6)
18 labs	
<b>Allele-2</b>	<b>%(n)</b>
*012:01	50(9)
*012:01/*012:04	5 (1)
*012	5 (1)
*012:01/*018:01	5 (1)
*012/*018	22(4)
*018:01	5 (1)
*018	5 (1)

<b>MICA#161</b>	
18 labs	
<b>Allele-1</b>	<b>%(n)</b>
*010:01	44(8)
*010	17(3)
*010:01/*069	11(2)
*010/*069	22(4)
*010:01/*065/*069	6 (1)
18 labs	
<b>Allele-2</b>	<b>%(n)</b>
*015	100(18)

<b>MICA#162</b>	
17 labs	
<b>Allele-1</b>	<b>%(n)</b>
*009:01	17(3)
*009	12(2)
*049	29(5)
*009:01/*049	12(2)
*009/*049	17(3)
*009:01/*049/*076	6 (1)
*009/*027/*048	6 (1)
17 labs	
<b>Allele-2</b>	<b>%(n)</b>
*027	56(10)
*027/*048	28(5)
*027/*048/*049	6 (1)
*008:03/*027/*048/*024	6 (1)

**Table 2. MICA typing results reported by participating laboratories.**

<b>MICA# 157 (Caucasian)</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
	234	*002:01/*020/*055	*027/*048		SSO
	278	*002:01	*027	*020/*048/*055	SSO
	733	*002:01	*027		SBT
	762	*002:01	*027		NGS
	1426	*002:01/*020/*055	*027/*048		SSO
	3753	*002/*020/*055	*027/*048		SSO
	3798	*002/*020/*055	*027/*048		SSO
	3966	*002	*027	*048/*055	SSO
	4337	*002/*020/*055	*027		SSP
	4345	*002/*020/*055	*027/*048		
	5133	*002:01	*027		NGS
	8035	*002/*020/*027/*048	*027/*048/*055		SSO
	8047	*002:01/*002:02	*008:03/*027/*048		NGS
	8073	*002:01	*027		NGS
	8080	*002:01	*027		NGS
	8086	*002:01	*027		SBT
	8105	*002:01	*027		NGS
	8108	*002	*027	*020/*048/*055	SSO

<b>Table 3. MICA typing results reported by participating laboratories.</b>					
<b>MICA# 158</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
<b>(Black)</b>	234	*008:01/*008:04	*011		SSO
	278	*008:01	*011	*008:04/*088N	SSO
	733	*008:01:01	*011	*008:01:02/*008:04	SBT
	762	*008:01/*008:04	*011		NGS
	1426	*008:01/*008:04/*088N	*011		SSO
	3753	*008	*011		SSO
	3798	*008	*011		SSO
	3966	*008	*011		SSO
	4337	*008	*011		SSP
	4345	*008	*011		
	5133	*008:01	*011		NGS
	8035	*008/*088N	*011		SSO
	8047	*008:01/*008:03/*008:04	*011		NGS
	8073	*008:01	*011		NGS
	8080	*008:01	*011		NGS
	8086	*008:01	*011		SBT
	8105	*008:01	*011		NGS
	8108	*008	*011	*088N	SSO

**Table 4. MICA typing results reported by participating laboratories.**

<b>MICA# 159 (Hispanic)</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
	234	*001	*004		SSO
	278	*001	*004		SSO
	733	*001	*004		SBT
	762	*001	*004		NGS
	1426	*001	*004		SSO
	3753	*001	*004		SSO
	3798	*001	*004		SSO
	3966	*001	*004		SSO
	4337	*001	*004		SSP
	4345	*001	*004		
	5133	*001	*004		NGS
	8035	*001	*004		SSO
	8047	*001	*004		NGS
	8073	*001	*004		NGS
	8080	*001	*004		NGS
	8086	*001	*004		SBT
	8105	*001	*004		NGS
	8108	*001	*004		SSO

**Table 5. MICA typing results reported by participating laboratories.**

<b>MICA# 160 (Asian)</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
	234	*012:01	*018:01		SSO
	278	*012:01	*012:01	*018:01	SSO
	733	*012:01			SBT
	762	*012:01			NGS
	1426	*012:01	*012:01/*018:01		SSO
	3753	*012	*012/*018		SSO
	3798	*012	*012/*018		SSO
	3966	*012	*018		SSO
	4337	*012:01	*012:01		SSP
	4345	*012	*012/*018		
	5133	*012:01	-		NGS
	8035	*012	*012/*018		SSO
	8047	*012:01/*012:04	*012:01/*012:04		NGS
	8073	*012:01			NGS
	8080	*012:01	*012:01		NGS
	8086	*012:01	*012:01		SBT
	8105	*012:01			NGS
	8108	*012	*012	*018	SSO

**Table 6. MICA typing results reported by participating laboratories.**

<b>MICA# 161 (Black)</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
	234	*010:01/*069	*015		SSO
	278	*010:01	*015	*069	SSO
	733	*010:01	*015	*065/*069	SBT
	762	*010:01	*015		NGS
	1426	*010:01/*069	*015		SSO
	3753	*010/*069	*015		SSO
	3798	*010/*069	*015		SSO
	3966	*010	*015	*069	SSO
	4337	*010	*015		SSP
	4345	*010/*069	*015		
	5133	*010:01	*015		NGS
	8035	*010/*069	*015		SSO
	8047	*010:01/*065/*069	*015		NGS
	8073	*010:01	*015		NGS
	8080	*010:01	*015		NGS
	8086	*010:01	*015		SBT
	8105	*010:01	*015		NGS
	8108	*010	*015	*069	SSO

**Table 7. MICA typing results reported by participating laboratories.**

<b>MICA# 162 (Unknown)</b>	<b>CTR</b>	<b>Allele-1</b>	<b>Allele-2</b>	<b>Others</b>	<b>Method</b>
	234	*009:01/*049	*027/*048		SSO
	278	*009:01	*027	*048/*049	SSO
	733	*009:01	*027	*048/*049	SBT
	762	*049	*027	*024/*076	NGS
	1426	*009:01/*049	*027/*048		SSO
	3753	*009/*049	*027/*048		SSO
	3798	*009/*049	*027/*048		SSO
	3966	*009	*027	*049/*048	SSO
	4337	*049	*027		SSP
	4345	*009/*049	*027/*048		
	5133	*049	*027	*024/*076	NGS
	8035	*009/*027/*048	*027/*048/*049		SSO
	8047	*009:01/*049/*076	*008:03/*027/*048/*024		NGS
	8073	no amplicon			NGS
	8080	*009:01	*027	*049/*048	NGS
	8086	*049	*027		SBT
	8105	*049	*027		NGS
	8108	*009	*027	*048/*049	SSO