

# REPORT OF THE 38<sup>th</sup> UCLA INTERNATIONAL MICA EXCHANGE

## OCTOBER 9, 2019

MICA

151-156

For the 38<sup>th</sup> MICA Exchange, 6 DNA samples (MICA#151-MICA#156) were shipped to 24 laboratories worldwide. MICA typing results were re-

ceived from 23 laboratories. Results for MICA Exchange 38 are summarized in Table 1 and individual laboratory results are shown in Tables 2-7.

**MICA#151.** MICA\*007 and MICA\*027 was the consensus MICA genotype for this sample from a Hispanic donor. MICA\*007 was reported by 100%, with 8 labs reporting MICA\*007:01, 3 labs assigning MICA\*007:01/\*007:07, and 1 lab reporting MICA\*007:01/\*007:02.

MICA\*027 (96%) was reported as the second MICA allele, with 11 labs assigning MICA\*027/\*048. MICA\*048 differs from MICA\*027 by a single amino acid substitution in exon 5 at codon 316 (GAG → GAT), resulting in an amino acid change from glutamic acid to aspartic acid.

**MICA#152.** MICA\*008 and MICA\*017 was the consensus MICA genotype for this sample from a Caucasian donor. MICA\*008 was reported in complete consensus. The reporting of the subtypes for MICA\*008 were mixed among labs, with 6 labs reporting MICA\*008:04, 3 labs reporting MICA\*008:01/\*008:04, 2 labs reporting MICA\*008:01, and 1 lab reporting MICA\*008:01/\*008:03/\*008:04. MICA\*017 was reported in complete consensus as the other MICA allele present.

**MICA#153.** MICA\*012 and MICA\*045 was the consensus MICA genotype for this sample from a donor of unknown ethnicity. MICA\*012 was reported in complete consensus, with 13 labs reporting MICA\*012:01. The second MICA allele present was MICA\*045, reported by 100% of labs.

**MICA#154.** MICA\*015 and MICA\*019 was the consensus MICA genotype for this sample from an African American donor. Each were reported in complete consensus. Thirteen labs assigned MICA\*019:01 as the subtype for MICA\*019.

**MICA#155.** MICA\*016 and MICA\*018 was the consensus MICA genotype for this sample from a donor of unknown ethnicity. Each were reported in complete consensus, with 12 labs reporting MICA\*018:01 as the MICA\*018 subtype. One lab assigned MICA\*018:01/\*018:02.

**MICA#156.** MICA\*002 and MICA\*010 was the consensus MICA genotype for this sample from an Asian donor. MICA\*002 was reported by 8 labs, with 6 labs assigning MICA\*002:01. A number (n=12) of labs were unable to resolve MICA\*002 from MICA\*020 and MICA\*055. MICA\*020 and MICA\*055 differ from MICA\*002 by the number of GCT repeats in their transmembrane domains (exon 5), where MICA\*002 has 9 GCT repeats, MICA\*020 has 10 GCT repeats, and MICA\*055 has 8 GCT repeats.

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**Table 1. Summary of 38<sup>th</sup> MICA Exchange Sample #151-#156**

| <b>MICA#151</b>   |             |
|-------------------|-------------|
| 23 labs           |             |
| <b>Allele-1</b>   | <b>%(n)</b> |
| *007:01           | 35(8)       |
| *007:01/*007:07   | 13(3)       |
| *007:01/*007:02   | 4 (1)       |
| *007              | 48(11)      |
|                   |             |
|                   |             |
|                   |             |
| 23 labs           |             |
| <b>Allele-2</b>   | <b>%(n)</b> |
| *027              | 48(11)      |
| *027/*048         | 48(11)      |
| *008:03/*027/*048 | 4 (1)       |
|                   |             |
|                   |             |

| <b>MICA#152</b>               |             |
|-------------------------------|-------------|
| 23 labs                       |             |
| <b>Allele - 1</b>             | <b>%(n)</b> |
| *008:01:01                    | 4 (1)       |
| *008:01                       | 4 (1)       |
| *008:04                       | 26(6)       |
| *008:01/*008:04               | 9 (2)       |
| *008:01:01/*008:01:02/*008:04 | 4 (1)       |
| *008:01/*008:03/*008:04       | 4 (1)       |
| *008                          | 48(11)      |
|                               |             |
| 23 labs                       |             |
| <b>Allele - 2</b>             | <b>%(n)</b> |
| *017                          | 100(23)     |
|                               |             |
|                               |             |
|                               |             |

| <b>MICA#153</b>   |             |
|-------------------|-------------|
| 23 labs           |             |
| <b>Allele - 1</b> | <b>%(n)</b> |
| *012:01           | 57(13)      |
| *012:01/*012:04   | 4 (1)       |
| *012              | 39(9)       |
|                   |             |
|                   |             |
|                   |             |
| 23 labs           |             |
| <b>Allele - 2</b> | <b>%(n)</b> |
| *045              | 100(23)     |
|                   |             |
|                   |             |
|                   |             |

| <b>MICA#154</b> |             |
|-----------------|-------------|
| 23 labs         |             |
| <b>Allele-1</b> | <b>%(n)</b> |
| *015            | 100(23)     |
|                 |             |
|                 |             |
|                 |             |
|                 |             |
|                 |             |
| 23 labs         |             |
| <b>Allele-2</b> | <b>%(n)</b> |
| *019:01         | 57(13)      |
| *019            | 43(10)      |
|                 |             |
|                 |             |
|                 |             |

| <b>MICA#155</b>   |             |
|-------------------|-------------|
| 23 labs           |             |
| <b>Allele - 1</b> | <b>%(n)</b> |
| *016              | 100(23)     |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
| 23 labs           |             |
| <b>Allele - 2</b> | <b>%(n)</b> |
| *018:01           | 52(12)      |
| *018:01/*018:02   | 4 (1)       |
| *018              | 43(10)      |
|                   |             |
|                   |             |
|                   |             |

| <b>MICA#156</b>        |             |
|------------------------|-------------|
| 21 labs                |             |
| <b>Allele - 1</b>      | <b>%(n)</b> |
| *002:01                | 28(6)       |
| *002                   | 10(2)       |
| *002:01/*002:02/*022   | 4 (1)       |
| *002:01/*020/*055      | 19(4)       |
| *002/*020/*055         | 28(6)       |
| *002/*010/*020/*055    | 10(2)       |
|                        |             |
| 21 labs                |             |
| <b>Allele - 2</b>      | <b>%(n)</b> |
| *010:01                | 28(6)       |
| *010                   | 10(2)       |
| *010:01/*069           | 19(4)       |
| *010/*069              | 24(5)       |
| *010/*020/*055/*069    | 10(2)       |
| *010:01/*065/*069/*025 | 4 (1)       |
| *019                   | 4 (1)       |

| <b>Table 2. MICA typing results reported by participating laboratories</b> |            |                 |                   |               |               |
|--|------------|-----------------|-------------------|---------------|---------------|
| <b>MICA# 151<br/>(Hispanic)</b>  | <b>CTR</b> | <b>Allele-1</b> | <b>Allele-2</b>   | <b>Others</b> | <b>Method</b> |
|  | 234        | *007:01/*007:07 | *027/*048         |               | SSO           |
|  | 278        | *007:01         | *027              | *007:07, *048 | SSO           |
|  | 733        | *007:01         | *027              |               | SBT           |
|  | 735        | *007            | *027/*048         |               | SSO           |
|  | 762        | *007:01         | *027              |               | SBT           |
|  | 1426       | *007:01/*007:07 | *027/*048         |               | SSO           |
|  | 2549       | *007            | *027/*048         |               | SSO           |
|  | 3224       | *007:01/*007:07 | *027/*048         |               | SSO           |
|  | 3753       | *007            | *027/*048         |               | SSO           |
|  | 3798       | *007            | *027/*048         |               | SSO           |
|  | 3966       | *007            | *027              | *048          | SSO           |
|  | 4337       | *007            | *027              |               | SSP           |
|  | 4345       | *007            | *027/*048         |               | SSO           |
|  | 5000       | *007            | *027/*048         |               | SSO           |
|  | 5133       | *007:01         | *027              |               | NGS           |
|  | 5231       | *007            | *027/*048         |               | SSO           |
|  | 8035       | *007            | *027/*048         |               | SSO           |
|  | 8047       | *007:01/*007:02 | *008:03/*027/*048 |               | NGS           |
|  | 8073       | *007:01         | *027              |               | NGS           |
|  | 8080       | *007:01         | *027              |               | NGS           |
|  | 8086       | *007:01         | *027              |               | SBT           |
|  | 8105       | *007:01         | *027              |               | NGS           |
|  | 8108       | *007            | *027              | *048          | SSO           |

| <b>Table 3. MICA typing results reported by participating laboratories</b> |            |                               |                 |                     |               |
|--|------------|-------------------------------|-----------------|---------------------|---------------|
| <b>MICA# 152<br/>(Caucasian)</b>   | <b>CTR</b> | <b>Allele-1</b>               | <b>Allele-2</b> | <b>Others</b>       | <b>Method</b> |
|  | 234        | *008:01/*008:04               | *017            |                     | SSO           |
|  | 278        | *008:01                       | *017            | *008:04             | SSO           |
|  | 733        | *008:01:01                    | *017            | *008:01:02, *008:04 | SBT           |
|  | 735        | *008                          | *017            |                     | SSO           |
|  | 762        | *008:04                       | *017            |                     | SBT           |
|  | 1426       | *008:01:01/*008:01:02/*008:04 | *017            |                     | SSO           |
|  | 2549       | *008                          | *017            |                     | SSO           |
|  | 3224       | *008:01/*008:04               | *017            |                     | SSO           |
|  | 3753       | *008                          | *017            |                     | SSO           |
|  | 3798       | *008                          | *017            |                     | SSO           |
|  | 3966       | *008                          | *017            |                     | SSO           |
|  | 4337       | *008                          | *017            |                     | SSP           |
|  | 4345       | *008                          | *017            |                     | SSO           |
|  | 5000       | *008                          | *017            |                     | SSO           |
|  | 5133       | *008:04                       | *017            |                     | NGS           |
|  | 5231       | *008                          | *017            |                     | SSO           |
|  | 8035       | *008                          | *017            |                     | SSO           |
|  | 8047       | *008:01/*008:03/*008:04       | *017            |                     | NGS           |
|  | 8073       | *008:04                       | *017            |                     | NGS           |
|  | 8080       | *008:04                       | *017            |                     | NGS           |
|  | 8086       | *008:04                       | *017            |                     | SBT           |
|  | 8105       | *008:04                       | *017            |                     | NGS           |
|  | 8108       | *008                          | *017            |                     | SSO           |

| <b>Table 4. MICA typing results reported by participating laboratories</b> |            |                 |                 |               |               |
|--|------------|-----------------|-----------------|---------------|---------------|
| <b>MICA# 153<br/>(Unknown)</b>   | <b>CTR</b> | <b>Allele-1</b> | <b>Allele-2</b> | <b>Others</b> | <b>Method</b> |
|  | 234        | *012:01         | *045            |               | SSO           |
|  | 278        | *012:01         | *045            |               | SSO           |
|  | 733        | *012:01         | *045            |               | SBT           |
|  | 735        | *012            | *045            |               | SSO           |
|  | 762        | *012:01         | *045            |               | SBT           |
|  | 1426       | *012:01         | *045            |               | SSO           |
|  | 2549       | *012:01         | *045            |               | SSO           |
|  | 3224       | *012:01         | *045            |               | SSO           |
|  | 3753       | *012            | *045            |               | SSO           |
|  | 3798       | *012            | *045            |               | SSO           |
|  | 3966       | *012            | *045            |               | SSO           |
|  | 4337       | *012:01         | *045            |               | SSP           |
|  | 4345       | *012            | *045            |               | SSO           |
|  | 5000       | *012            | *045            |               | SSO           |
|  | 5133       | *012:01         | *045            |               | NGS           |
|  | 5231       | *012            | *045            |               | SSO           |
|  | 8035       | *012            | *045            |               | SSO           |
|  | 8047       | *012:01/*012:04 | *045            |               | NGS           |
|  | 8073       | *012:01         | *045            |               | NGS           |
|  | 8080       | *012:01         | *045            |               | NGS           |
|  | 8086       | *012:01         | *045            |               | SBT           |
|  | 8105       | *012:01         | *045            |               | NGS           |
|  | 8108       | *012            | *045            |               | SSO           |

| <b>Table 5. MICA typing results reported by participating laboratories</b> |            |                 |                 |               |               |
|--|------------|-----------------|-----------------|---------------|---------------|
| <b>MICA# 154<br/>(Black)</b>   | <b>CTR</b> | <b>Allele-1</b> | <b>Allele-2</b> | <b>Others</b> | <b>Method</b> |
|  | 234        | *015            | *019:01         |               | SSO           |
|  | 278        | *015            | *019:01         |               | SSO           |
|  | 733        | *015            | *019:01         |               | SBT           |
|  | 735        | *015            | *019            |               | SSO           |
|  | 762        | *015            | *019:01         |               | SBT           |
|  | 1426       | *015            | *019:01         |               | SSO           |
|  | 2549       | *015            | *019:01         |               | SSO           |
|  | 3224       | *015            | *019:01         |               | SSO           |
|  | 3753       | *015            | *019            |               | SSO           |
|  | 3798       | *015            | *019            |               | SSO           |
|  | 3966       | *015            | *019            |               | SSO           |
|  | 4337       | *015            | *019            |               | SSP           |
|  | 4345       | *015            | *019            |               | SSO           |
|  | 5000       | *015            | *019            |               | SSO           |
|  | 5133       | *015            | *019:01         |               | NGS           |
|  | 5231       | *015            | *019            |               | SSO           |
|  | 8035       | *015            | *019            |               | SSO           |
|  | 8047       | *015            | *019:01         |               | NGS           |
|  | 8073       | *015            | *019:01         |               | NGS           |
|  | 8080       | *015            | *019:01         |               | NGS           |
|  | 8086       | *015            | *019:01         |               | SBT           |
|  | 8105       | *015            | *019:01         |               | NGS           |
|  | 8108       | *015            | *019            |               | SSO           |

| <b>Table 6. MICA typing results reported by participating laboratories</b> |            |                 |                 |               |               |
|--|------------|-----------------|-----------------|---------------|---------------|
| <b>MICA# 155<br/>(Unknown)</b>   | <b>CTR</b> | <b>Allele-1</b> | <b>Allele-2</b> | <b>Others</b> | <b>Method</b> |
|  | 234        | *016            | *018:01         |               | SSO           |
|  | 278        | *016            | *018:01         |               | SSO           |
|  | 733        | *016            | *018:01         |               | SBT           |
|  | 735        | *016            | *018            |               | SSO           |
|  | 762        | *016            | *018:01         |               | SBT           |
|  | 1426       | *016            | *018:01         |               | SSO           |
|  | 2549       | *016            | *018:01         |               | SSO           |
|  | 3224       | *016            | *018:01         |               | SSO           |
|  | 3753       | *016            | *018            |               | SSO           |
|  | 3798       | *016            | *018            |               | SSO           |
|  | 3966       | *016            | *018            |               | SSO           |
|  | 4337       | *016            | *018            |               | SSP           |
|  | 4345       | *016            | *018            |               | SSO           |
|  | 5000       | *016            | *018            |               | SSO           |
|  | 5133       | *016            | *018:01         |               | NGS           |
|  | 5231       | *016            | *018            |               | SSO           |
|  | 8035       | *016            | *018            |               | SSO           |
|  | 8047       | *016            | *018:01/*018:02 |               | NGS           |
|  | 8073       | *016            | *018:01         |               | NGS           |
|  | 8080       | *016            | *018:01         |               | NGS           |
|  | 8086       | *016            | *018:01         |               | SBT           |
|  | 8105       | *016            | *018:01         |               | NGS           |
|  | 8108       | *016            | *018            |               | SSO           |

| Table 7. MICA typing results reported by participating laboratories |      |                      |                        |                |        |
|---|------|----------------------|------------------------|----------------|--------|
| MICA# 156<br>(Asian)  | CTR  | Allele-1             | Allele-2               | Others         | Method |
|   | 234  | *002:01/*020/*055    | *010:01/*069           |                | SSO    |
|   | 278  | *002:01              | *010:01                | *020/*055/*069 | SSO    |
|   | 733  | *002:01              | *010:01                | *069           | SBT    |
|   | 735  | *002/*020/*055       | *010/*069              |                | SSO    |
|   | 762  | *002:01              | *010:01                | *022, *025     | SBT    |
|   | 1426 | *002:01/*020/*055    | *010:01/*069           |                | SSO    |
|   | 2549 | *002:01/*020/*055    | *010:01/*069           |                | SSO    |
|   | 3224 | *002:01/*020/*055    | *010:01/*069           |                | SSO    |
|   | 3753 | *002/*020/*055       | *010/*069              |                | SSO    |
|   | 3798 | *002/*020/*055       | *010/*069              |                | SSO    |
|   | 3966 | *002                 | *010                   | *020/*055/*069 | SSO    |
|   | 4337 | *002/*020/*055       | *010                   |                | SSP    |
|   | 4345 | *002/*010/*020/*055  | *010/*020/*055/*069    |                | SSO    |
|   | 5000 | *002/*020/*055       | *010/*069              |                | SSO    |
|   | 5133 | NT                   |                        |                | NGS    |
|   | 5231 | *002/*020/*055       | *010/*069              |                | SSO    |
|   | 8035 | *002/*010/*020/*055  | *010/*020/*055/*069    |                | SSO    |
|   | 8047 | *002:01/*002:02/*022 | *010:01/*065/*069/*025 |                | NGS    |
|   | 8073 | No amplification.    | MICA deletion?         |                | NGS    |
|   | 8080 | *002:01              | *010:01                | *020/*055/*069 | NGS    |
|   | 8086 | *002:01              | *010:01                |                | SBT    |
|   | 8105 | *002:01              | *010:01                |                | NGS    |
|   | 8108 | *002                 | *019                   | *020/*055      | SSO    |