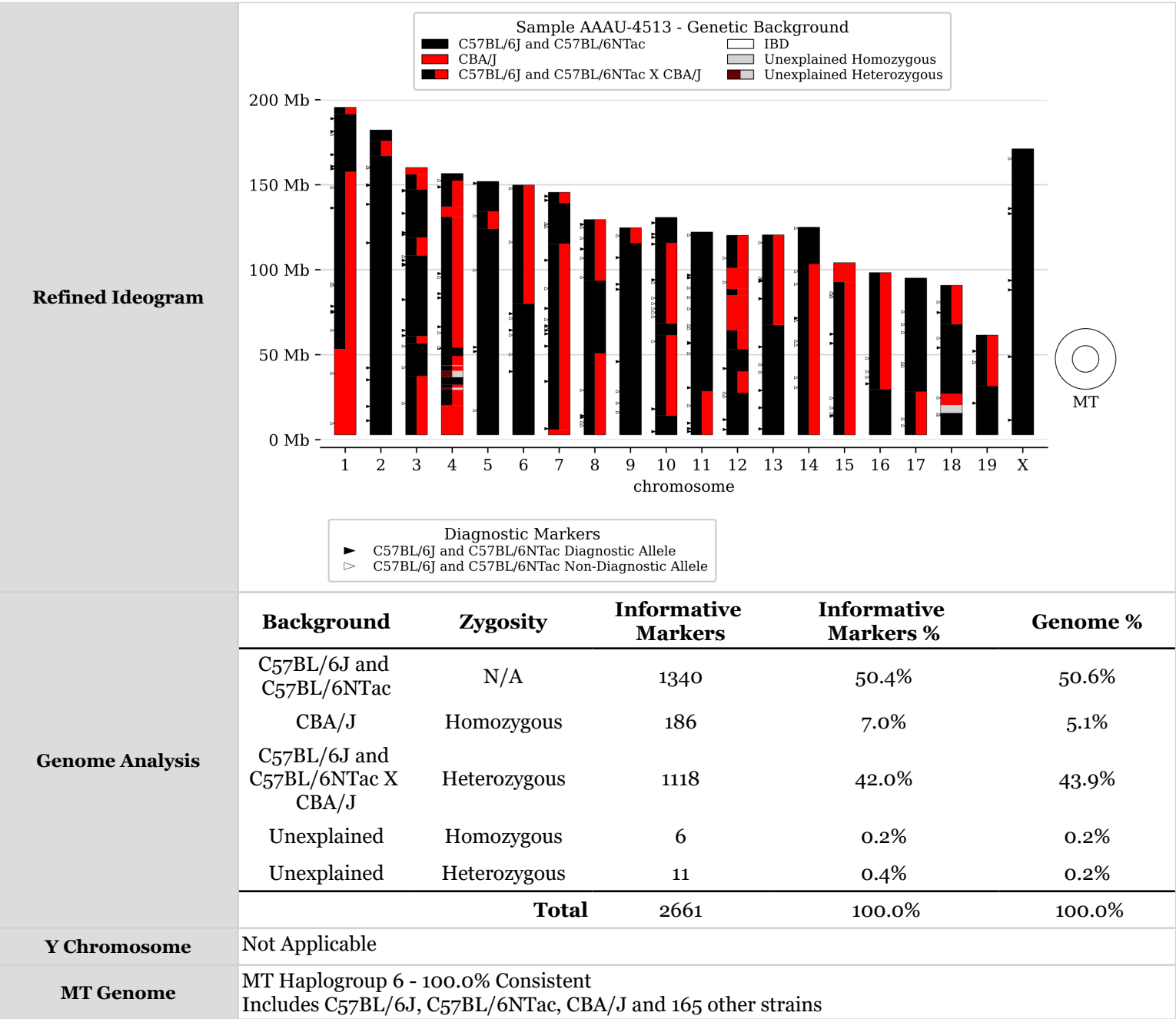


# MiniMUGA Background Analysis v2.3.1

[illegible]

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| Background                       | Zygotity     | Informative Markers | Informative Markers % | Genome % |
|----------------------------------|--------------|---------------------|-----------------------|----------|
| C57BL/6J and C57BL/6NTac         | N/A          | 1340                | 50.4%                 | 50.6%    |
| CBA/J                            | Homozygous   | 186                 | 7.0%                  | 5.1%     |
| C57BL/6J and C57BL/6NTac X CBA/J | Heterozygous | 1118                | 42.0%                 | 43.9%    |
| Unexplained                      | Homozygous   | 6                   | 0.2%                  | 0.2%     |
| Unexplained                      | Heterozygous | 11                  | 0.4%                  | 0.2%     |
| Total                            |              | 2661                | 100.0%                | 100.0%   |

Y Chromosome

Not Applicable

MT Genome

MT Haplogroup 6 - 100.0% Consistent  
Includes C57BL/6J, C57BL/6NTac, CBA/J and 165 other strains

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| Backgrounds Detected<br>(Diagnostic Alleles) | Diagnostic Alleles Observed   |            |                                    |              |            |
|--|---|------------|------------------------------------|--------------|------------|
|  | Diagnostic Class  | Homozygous | Heterozygous                       | Potential    | % Observed |
|  | C57BL/6J, C57BL/6JJicTac, C57BL/6JRj  | 10         | 45                                 | 102          | 53.9%      |
|  | C57BL/6J, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JRj   | 4          | 6                                  | 21           | 47.6%      |
|  | C57BL/6J, C57BL/6JRj  | 3          | 8                                  | 31           | 35.5%      |
|  | C57BL/6NRj, C57BL/6NTac   | 0          | 9                                  | 15           | 60.0%      |
|  | C57BL/6NJ, C57BL/6NRj, C57BL/6NTac  | 1          | 6                                  | 10           | 70.0%      |
|  | B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6J, C57BL/6JJicTac, C57BL/6JRj   | 0          | 3                                  | 5            | 60.0%      |
|  | B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6NCrl, C57BL/6NHsd, C57BL/6NJ, C57BL/6NRj, C57BL/6NTac   | 0          | 2                                  | 2            | 100.0%     |
|  | 129S5/SvEvBrd   | 0          | 1                                  | 5            | 20.0%      |
|  | B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6J, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JRj  | 0          | 1                                  | 1            | 100.0%     |
|  | C57BL/6J, C57BL/6JBomTac, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JolaHsd, C57BL/6JRj   | 0          | 1                                  | 2            | 50.0%      |
|  | C57BL/6NRj  | 0          | 1                                  | 10           | 10.0%      |
|  | <b>Minimal Strain Sets Explaining All Diagnostic Classes (Number of Markers Explained):</b> <ul style="list-style-type: none"><li>Solution 1: 129S5/SvEvBrd and C57BL/6J and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6J: 81 / 162 (50.0%)</li><li>C57BL/6NRj: 19 / 37 (51.4%)</li><li>129S5/SvEvBrd: 1 / 5 (20.0%)</li></ul></li><li>Solution 2: 129S5/SvEvBrd and C57BL/6JRj and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6JRj: 81 / 162 (50.0%)</li><li>C57BL/6NRj: 19 / 37 (51.4%)</li><li>129S5/SvEvBrd: 1 / 5 (20.0%)</li></ul></li></ul> |            |                                    |              |            |
| Chromosome                                   | Start (Mb)  | Stop (Mb)  | Background                         | Zygosity     |            |
| 1  | 3000000   | 53457225   | CBA/J                              | Homozygous   |            |
| 1  | 53457225  | 157713559  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |
| 1  | 157713559   | 191629867  | C57BL/6J and C57BL/6NTac           | N/A          |            |
| 1  | 191629867   | 195471971  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |
| 2  | 3000000   | 166963888  | C57BL/6J and C57BL/6NTac           | N/A          |            |
| 2  | 166963888   | 175780822  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |
| 2  | 175780822   | 182113224  | C57BL/6J and C57BL/6NTac           | N/A          |            |
| 3  | 3000000   | 37371933   | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |
| 3  | 37371933  | 56655047   | C57BL/6J and C57BL/6NTac           | N/A          |            |
| 3  | 56655047  | 60850190   | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |
| 3  | 60850190  | 108381941  | C57BL/6J and C57BL/6NTac           | N/A          |            |
| 3  | 108381941   | 118919242  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |            |

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|                     |   |           |           |                                    |              |
|---------------------|---|-----------|-----------|------------------------------------|--------------|
| Diplotype Intervals | 3 | 118919242 | 147169673 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 3 | 147169673 | 156090101 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 3 | 156090101 | 160039680 | CBA/J                              | Homozygous   |
|                     | 4 | 30000000  | 20258658  | CBA/J                              | Homozygous   |
|                     | 4 | 20258658  | 29346519  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 29346519  | 30650814  | Unexplained                        | Heterozygous |
|                     | 4 | 30650814  | 32327128  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 32327128  | 36784495  | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 4 | 36784495  | 40531709  | Unexplained                        | Heterozygous |
|                     | 4 | 40531709  | 43372387  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 43372387  | 43819249  | Unexplained                        | Heterozygous |
|                     | 4 | 43819249  | 49280860  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 49280860  | 54114833  | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 4 | 54114833  | 131104093 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 131104093 | 137128778 | CBA/J                              | Homozygous   |
|                     | 4 | 137128778 | 152440879 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 4 | 152440879 | 156508116 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 5 | 30000000  | 124090949 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 5 | 124090949 | 134172373 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 5 | 134172373 | 151834684 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 6 | 30000000  | 80057017  | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 6 | 80057017  | 149736546 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 7 | 30000000  | 5883284   | CBA/J                              | Homozygous   |
|                     | 7 | 5883284   | 115227247 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 7 | 115227247 | 139178143 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 7 | 139178143 | 145441459 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 8 | 30000000  | 50816610  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 8 | 50816610  | 93626178  | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 8 | 93626178  | 129401213 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|                     | 9 | 30000000  | 115715944 | C57BL/6J and C57BL/6NTac           | N/A          |
|                     | 9 | 115715944 | 124595110 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |

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|  |    |           |           |                                    |              |
|--|----|-----------|-----------|------------------------------------|--------------|
|  | 10 | 3000000   | 14185354  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 10 | 14185354  | 61450853  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 10 | 61450853  | 68332199  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 10 | 68332199  | 115781736 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 10 | 115781736 | 130694993 | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 11 | 3000000   | 28525615  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 11 | 28525615  | 122082543 | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 12 | 3000000   | 27585493  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 12 | 27585493  | 40194548  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 12 | 40194548  | 53361412  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 12 | 53361412  | 64411355  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 12 | 64411355  | 85015902  | CBA/J                              | Homozygous   |
|  | 12 | 85015902  | 88650858  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 12 | 88650858  | 101027932 | CBA/J                              | Homozygous   |
|  | 12 | 101027932 | 120129022 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 13 | 3000000   | 67442927  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 13 | 67442927  | 120421639 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 14 | 3000000   | 103377147 | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 14 | 103377147 | 124902244 | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 15 | 3000000   | 92737752  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 15 | 92737752  | 104043685 | CBA/J                              | Homozygous   |
|  | 16 | 3000000   | 29701002  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 16 | 29701002  | 98207768  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 17 | 3000000   | 28225412  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 17 | 28225412  | 94987271  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 18 | 3000000   | 15685654  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 18 | 15685654  | 20363699  | Unexplained                        | Homozygous   |
|  | 18 | 20363699  | 27036500  | CBA/J                              | Homozygous   |
|  | 18 | 27036500  | 67937187  | C57BL/6J and C57BL/6NTac           | N/A          |
|  | 18 | 67937187  | 90702639  | C57BL/6J and C57BL/6NTac and CBA/J | Heterozygous |
|  | 19 | 3000000   | 31636352  | C57BL/6J and C57BL/6NTac           | N/A          |

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|  |    |          |           |                                       |              |
|--|----|----------|-----------|---------------------------------------|--------------|
|  | 19 | 31636352 | 61431566  | C57BL/6J and<br>C57BL/6NTac and CBA/J | Heterozygous |
|  | X  | 30000000 | 171031299 | C57BL/6J and<br>C57BL/6NTac           | N/A          |
|  | MT | o        | o         | IBD                                   | Hemizygous   |