

# MiniMUGA Background Analysis v2.3.1

Sample ID	Q099																																						
Neogen ID	AAAU-4488																																						
Summary	<p>The genotype of this sample is of <b>excellent</b> quality. It is <b>female</b> and <b>outbred</b>, and likely a mix of <b>C57BL/6J and C57BL/6NTac</b> and <b>CBA/J</b>. Clustering of unexplained markers is evidence of an additional background strain.</p> <p>Diagnostic SNPs are likely explained by the presence of the background strains</p> <ul style="list-style-type: none"><li>Solution 1: C57BL/6J and C57BL/6NTac<ul style="list-style-type: none"><li>C57BL/6J: 87 / 162 (53.7%)</li><li>C57BL/6NTac: 17 / 30 (56.7%)</li></ul></li><li>Solution 2: C57BL/6J and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6J: 87 / 162 (53.7%)</li><li>C57BL/6NRj: 17 / 30 (56.7%)</li></ul></li><li>Solution 3: C57BL/6JRj and C57BL/6NTac<ul style="list-style-type: none"><li>C57BL/6JRj: 87 / 162 (53.7%)</li><li>C57BL/6NTac: 17 / 30 (56.7%)</li></ul></li><li>Solution 4: C57BL/6JRj and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6JRj: 87 / 162 (53.7%)</li><li>C57BL/6NRj: 17 / 30 (56.7%)</li></ul></li></ul> <p>No genetic constructs were detected in this sample.</p>																																						
	Genotyping Quality	<b>Excellent (21 N calls)</b> All reported results are dependent on genotyping quality.																																					
	Chromosomal Sex	XX																																					
Inbreeding Estimate	53.6% Inbred (Percentage of the genome (autosomal and X chromosomes) that is homozygous or hemizygous for primary, secondary, and unknown backgrounds. See Genome Analysis)																																						
Constructs Detected	<table><tr><th>BlastR</th><th>bpA</th><th>Cas9</th><th>chlor</th><th>eHS4</th><th>Cre</th><th>DTA</th><th>Flp</th><th>g_FP</th><th>hCMV_a</th><th>hCMV_b</th><th>hTK_pr</th><th>iCre</th><th>IRES</th><th>Luc</th><th>r_FP</th><th>rtTA</th><th>SV4o</th><th>tTA</th></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>	BlastR	bpA	Cas9	chlor	eHS4	Cre	DTA	Flp	g_FP	hCMV_a	hCMV_b	hTK_pr	iCre	IRES	Luc	r_FP	rtTA	SV4o	tTA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BlastR	bpA	Cas9	chlor	eHS4	Cre	DTA	Flp	g_FP	hCMV_a	hCMV_b	hTK_pr	iCre	IRES	Luc	r_FP	rtTA	SV4o	tTA																					
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																					
Refined Ideogram	<div><div>Sample AAAU-4488 - Genetic Background</div><div><div><div>C57BL/6J and C57BL/6NTac</div><div>CBA/J</div><div>C57BL/6J and C57BL/6NTac X CBA/J</div></div><div><div>IBD</div><div>Unexplained Homozygous</div><div>Unexplained Heterozygous</div></div></div><p>200 Mb -</p><p>150 Mb -</p><p>100 Mb -</p><p>50 Mb -</p><p>0 Mb -</p><p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 X</p><p>chromosome</p><div><div>Diagnostic Markers</div><div><div>▶ C57BL/6J and C57BL/6NTac Diagnostic Allele</div><div>▷ C57BL/6J and C57BL/6NTac Non-Diagnostic Allele</div></div></div></div>																																						

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	Background	Zygotity	Informative Markers	Informative Markers %	Genome %
Genome Analysis	C57BL/6J and C57BL/6NTac	N/A	1084	41.0%	35.9%
	CBA/J	Homozygous	490	18.5%	17.7%
	C57BL/6J and C57BL/6NTac X CBA/J	Heterozygous	1061	40.1%	46.1%
	Unexplained	Heterozygous	10	0.4%	0.2%
	Total		2645	100.0%	99.9%
Y Chromosome	Not Applicable				
MT Genome	MT Haplogroup 6 - 100.0% Consistent Includes C57BL/6J, C57BL/6NTac, CBA/J and 165 other strains				
Backgrounds Detected (Diagnostic Alleles)	Diagnostic Alleles Observed				
	Diagnostic Class		Homozygous	Heterozygous	Potential % Observed
	C57BL/6J, C57BL/6JJicTac, C57BL/6JRj		5	53	102 56.9%
	C57BL/6J, C57BL/6JRj		6	7	31 41.9%
	C57BL/6J, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JRj		2	11	21 61.9%
	C57BL/6NRj, C57BL/6NTac		0	9	15 60.0%
	C57BL/6NJ, C57BL/6NRj, C57BL/6NTac		0	4	10 40.0%
	C57BL/6NCrl, C57BL/6NHsd, C57BL/6NJ, C57BL/6NRj, C57BL/6NTac		0	2	2 100.0%
	B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6J, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JRj		0	1	1 100.0%
	B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6J, C57BL/6JJicTac, C57BL/6JRj		0	1	5 20.0%
	B6N-Tyr<c-Brd>/BrdCrCrl, C57BL/6NCrl, C57BL/6NHsd, C57BL/6NJ, C57BL/6NRj, C57BL/6NTac		0	1	2 50.0%
	C57BL/6J, C57BL/6JBomTac, C57BL/6JEiJ, C57BL/6JJicTac, C57BL/6JolaHsd, C57BL/6JRj		0	1	2 50.0%
	C57BL/6NHsd, C57BL/6NJ, C57BL/6NRj, C57BL/6NTac		0	1	1 100.0%
	Minimal Strain Sets Explaining All Diagnostic Classes (Number of Markers Explained):				
	<ul style="list-style-type: none"><li>Solution 1: C57BL/6J and C57BL/6NTac<ul style="list-style-type: none"><li>C57BL/6J: 87 / 162 (53.7%)</li><li>C57BL/6NTac: 17 / 30 (56.7%)</li></ul></li><li>Solution 2: C57BL/6J and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6J: 87 / 162 (53.7%)</li><li>C57BL/6NRj: 17 / 30 (56.7%)</li></ul></li><li>Solution 3: C57BL/6JRj and C57BL/6NTac<ul style="list-style-type: none"><li>C57BL/6JRj: 87 / 162 (53.7%)</li><li>C57BL/6NTac: 17 / 30 (56.7%)</li></ul></li><li>Solution 4: C57BL/6JRj and C57BL/6NRj<ul style="list-style-type: none"><li>C57BL/6JRj: 87 / 162 (53.7%)</li><li>C57BL/6NRj: 17 / 30 (56.7%)</li></ul></li></ul>				
	Chromosome	Start (Mb)	Stop (Mb)	Background	Zygotity
	1	3000000	41199760	CBA/J	Homozygous
	1	41199760	53457225	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous

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Diplotype Intervals	1	53457225	60621237	C57BL/6J and C57BL/6NTac	N/A
	1	60621237	136798402	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	1	136798402	152801739	CBA/J	Homozygous
	1	152801739	192078159	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	1	192078159	195471971	C57BL/6J and C57BL/6NTac	N/A
	2	30000000	72629186	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	2	72629186	139631657	C57BL/6J and C57BL/6NTac	N/A
	2	139631657	182113224	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	3	30000000	156090101	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	3	156090101	160039680	CBA/J	Homozygous
	4	30000000	35563307	C57BL/6J and C57BL/6NTac	N/A
	4	35563307	41348396	Unexplained	Heterozygous
	4	41348396	55826643	C57BL/6J and C57BL/6NTac	N/A
	4	55826643	131104093	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	4	131104093	153356388	CBA/J	Homozygous
	4	153356388	156508116	C57BL/6J and C57BL/6NTac	N/A
	5	30000000	66015308	C57BL/6J and C57BL/6NTac	N/A
	5	66015308	90681879	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	5	90681879	130280923	CBA/J	Homozygous
	5	130280923	151834684	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	6	30000000	79701235	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	6	79701235	149736546	C57BL/6J and C57BL/6NTac	N/A
	7	30000000	5883380	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	7	5883380	119823617	C57BL/6J and C57BL/6NTac	N/A
	7	119823617	126580094	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	7	126580094	145441459	C57BL/6J and C57BL/6NTac	N/A
	8	30000000	125832225	C57BL/6J and C57BL/6NTac	N/A
	8	125832225	129401213	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	9	30000000	37691490	C57BL/6J and C57BL/6NTac	N/A
	9	37691490	124595110	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	10	30000000	42858234	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous

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	10	42858234	83779430	CBA/J	Homozygous
	10	83779430	115781736	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	10	115781736	130694993	CBA/J	Homozygous
	11	3000000	19463075	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	11	19463075	79617327	CBA/J	Homozygous
	11	79617327	87432699	C57BL/6J and C57BL/6NTac	N/A
	11	87432699	122082543	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	12	3000000	27585493	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	12	27585493	85015902	CBA/J	Homozygous
	12	85015902	94246475	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	12	94246475	100284662	CBA/J	Homozygous
	12	100284662	120129022	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	13	3000000	51605798	C57BL/6J and C57BL/6NTac	N/A
	13	51605798	68886272	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	13	68886272	111361745	CBA/J	Homozygous
	13	111361745	120421639	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	14	3000000	38092288	CBA/J	Homozygous
	14	38092288	103377147	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	14	103377147	124902244	C57BL/6J and C57BL/6NTac	N/A
	15	3000000	36473640	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	15	36473640	104043685	C57BL/6J and C57BL/6NTac	N/A
	16	3000000	20813513	C57BL/6J and C57BL/6NTac	N/A
	16	20813513	49897727	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	16	49897727	98207768	CBA/J	Homozygous
	17	3000000	51237708	C57BL/6J and C57BL/6NTac	N/A
	17	51237708	69590784	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	17	69590784	94987271	C57BL/6J and C57BL/6NTac	N/A
	18	3000000	17841108	C57BL/6J and C57BL/6NTac	N/A
	18	17841108	90702639	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	19	3000000	61431566	C57BL/6J and C57BL/6NTac	N/A
	X	3000000	30815921	C57BL/6J and C57BL/6NTac	N/A
	X	30815921	70193631	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous

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	X	70193631	105020820	C57BL/6J and C57BL/6NTac	N/A
	X	105020820	136441962	CBA/J	Homozygous
	X	136441962	171031299	C57BL/6J and C57BL/6NTac and CBA/J	Heterozygous
	MT	o	o	IBD	Hemizygous