

# GENOTYPING PROTOCOL

## MUTANT MOUSE RESOURCE & RESEARCH CENTER: UC DAVIS

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530-754-MMRRC

**Protocol Name:** CR10068 Maged1 EXDEL

**Protocol:** GoTaq® G2 Colorless Master Mix(Promega)

Reagent/Constituent	Volume (µL)
Water	4.5
GoTaq® G2 Colorless Master Mix,2X	7.5
Primer 1. (stock concentration is 20µM) comF	0.5
Primer 2. (stock concentration is 20µM) wtR	0.5
Primer 3. (stock concentration is 20µM) mutR	0.5
DNA (example) extracted w/ "Qiagen DNeasy columns or other similar silica based kits"	1.5
<b>TOTAL VOLUME OF REACTION:</b>	<b>15.00 µL</b>

**Comments on protocol:**

- Protocol may work with other DNA extraction methods.

**Strategy:**

Steps	Temp (°C)	Time (m:ss)	# of Cycles
1. Initiation/Melting <span style="float: right;">HOT START? <input type="checkbox"/></span>	94	2:00	<b>1x</b>
2. Denaturation	94	0:10	
3. Annealing <span style="float: right;">steps 2-3-4 cycle in sequence</span>	65 (↓1°C/cycle)	0:30	<b>10x</b>
4. Elongation	68	2:00	
5. Denaturation	94	0:15	
6. Annealing <span style="float: right;">steps 5-6-7 cycle in sequence</span>	55	0:30	<b>25x</b>
7. Elongation	68	2:00 (↑20sec/cycle)	
8. Finish	4	∞	n/a

**Primers:**

**Electrophoresis Protocol:**

Name	Nucleotide Sequence (5' - 3')	Agarose: 1.5%	V: 90
1. CR-Maged1_comF	TGATGATGAGTTGATACAAGGACACAGG	Estimated Running Time: 90 min.	
2. CR-Maged1_wtR	GGTCTGCTGAGTGGTCACTGGAAC	<b>Primer Combination</b>	<b>Band (bp)</b>
3. CR-Maged1_mutR	GGTCAGTCACTTACCCTCGGTGG	1 & 2, 1 & 3	523,2034*
		1 & 3	351
			mutant

**Allele Description:** Exon 4-7 ([ENSMUSE00001276167](#), [ENSMUSE00001264660](#), [ENSMUSE00001264866](#), [ENSMUSE00000148285](#)) and flanking splicing regions were constitutively deleted from the Maged1 gene [ENSMUSG00000025151](#) using CRISPR Cas9 gene editing technology in mouse zygotes. Subsequent founders were backcrossed to C57BL6/N to produce sequence confirmed heterozygous animals.

\*May not see larger wildtype band

