

**GENOTYPING BY PCR PROTOCOL  
MUTANT MOUSE REGIONAL RESOURCE CENTER: UC DAVIS**

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530-754-MMRRC

**NAME OF PCR:** STOCK Tg(Mgst3-EGFP)NL79Gsat/Mmucd **MMRRC #** 036315-UCD

**Protocol:**

Reagent/ Constituent	Volume (µL)
Water	11.275
10x Buffer	2.5
MgCl <sub>2</sub> (stock concentration is 25mM)	1.7
Betaine (stock concentration is 5M)	6.5
dNTPs (stock concentration is 10mM)	0.5
DMSO	0.325
Primer 1 (stock concentration is 20µM)	0.5
Primer 2 (stock concentration is 20µM)	0.5
Taq Polymerase (5Units/µL)	0.2
DNA extracted with <input type="checkbox"/> NaOH <input checked="" type="checkbox"/> Proteinase K <input type="checkbox"/> Other:	1.0
<b>TOTAL VOLUME OF REACTION:</b>	<b>25µL</b>

**Comments on protocol:**

- Use Touch-Down cycling protocol-first 10 cycles anneal at 65° C decreasing in temperature by 1.0° C; next 30 cycles anneal at 55° C.
- Betaine/DMSO is standardized due to high GC content in promoter regions. Also, may adjust MgCl<sub>2</sub> to increase reaction or decrease non specific amplifications.

**Strategy:**

Steps	Temp (°C)	Time (m:ss)	# of Cycles
1. Initiation/Melting <span style="float:right">HOT START? <input type="checkbox"/></span>	94	5:00	1
2. Denaturation	94	0:15	} 40x
3. Annealing } steps 2-3-4 will cycle in sequence	65 to 55 (↓1°C/cycle)	0:30	
4. Elongation	72	0:40	
5. Amplification	72	5:00	1
6. Finish	4	Hold	n/a

**Primers:**

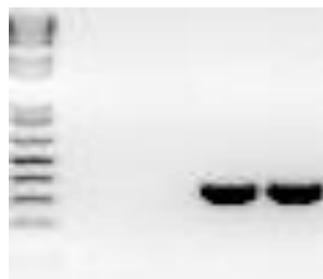
Name	Nucleotide Sequence (5' - 3')
1: Mgst3 (36315) F1	CTTTATGCATCTGCTGGTAATGAGGC
2: GFP R3	GGTCGGGGTAGCGGCTGAA

**Electrophoresis Protocol:**

**Agarose:** 1.5% **V:** 90

**Estimated Running Time:** 90 min.

Primer Combination	Band	Genotype
1 and 2	325 bp	transgenic



Lanes  
1. 1 kb+ ladder  
(Invitrogen, Cat. #10787-026)  
2. Non-template control  
3. Wild-type & eGFP  
4-5. Mgst3 tg/+

1 2 3 4 5