GENOTYPING BY PCR PROTOCOL
MUTANT MOUSE RESOURCE & RESEARCH CENTER: UC DAVIS

mmrrc@ucdavis.edu
530-754-MMRRC

STRAIN NAME: **C57BL/6N-*Polr1a*$^{tm1a(EUCOMM)Hmgu}$/BcmMmucd** **MMRRC: 041227-UCD**

Protocol:

Reagent/Constituent	Volume (µL)
Water	11.275
10x Buffer	2.5
$MgCl_2$ (stock concentration is 25mM)	1.7
Betaine (stock concentration is 5M) *Optional*	6.5
dNTPs (stock concentration is 10mM)	0.5
DMSO *Optional*	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 (example) extracted w/ "Qiagen DNeasy columns or other similar silica based kits"	1.0
TOTAL VOLUME OF REACTION:	**25.000 µL**

Comments on protocol:

- Protocol may work with other DNA extraction methods.
- Use Touch-Down cycling protocol-first 10 cycles anneal at 65ºC decreasing in temperature by 1.0ºC; next 30 cycles anneal at 55ºC.
- Betaine and DMSO have been standardized due to high GC content. Protocol may be tested without. Also, may adjust $MgCl_2$ to increase reaction or decrease non-specific amplifications.

Strategy:

Steps	Temp (ºC)	Time (m:ss)	# of Cycles
1. Initiation/Melting HOT START? ☐	94	5:00	**1**
2. Denaturation	94	0:15	
3. Annealing steps 2-3-4 cycle in sequence	65 to 55 (↓1ºC/cycle)	0:30	**40x**
4. Elongation	72	0:40	
5. Amplification	72	5:00	**1**
6. Finish	15	∞	n/a

Primers:

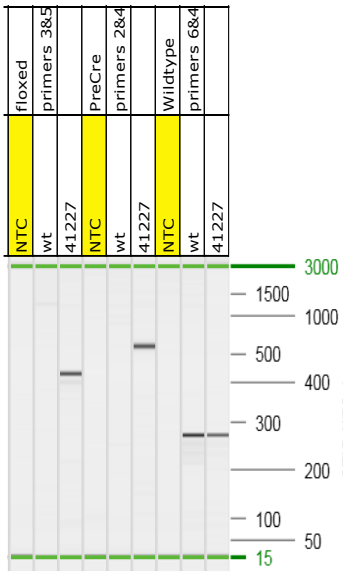
Name	Nucleotide Sequence (5' - 3')
1. 41227-lacF	GCTACCATTACCAGTTGGTCTGGTGT
2. 41227-neoF	GGGATCTCATGCTGGAGTTCTTCG
3. 41227-loxF	GAGATGGCGCAACGCAATTAATG
4. 41227-TTR	CGGTGTGCTTTCTGCTTCATGC
5. 41227-SR1	GACCCAAATGTGGAGCATAAGACACC
6. 41227-F	GATGCAGTTGGCAATTTCAAGACC

Electrophoresis Protocol:

Argarose: **1.5%** V: **90**

Estimated Running:Time: **90** min.

Primer Combination	**Band** (bp)	Genotype
3 & 5	465	Floxed
2 & 4	621	Pre-Cre
1 & 5	763	Post-Cre
4 & 6	290	Wild-type
4 & 6	492	Post-Flp
5 & 6	683	Post-Flp & Post-Cre



PCR protocol developed by MMRRC at University of California, Davis