

GENOTYPING BY PCR PROTOCOL

MUTANT MOUSE RESOURCE & RESEARCH CENTER: UC DAVIS

mmrrc@ucdavis.edu

530-754-MMRRC

Protocol Name: FVB/NJ-Zfp423em1Haml/Mmucd **MMRRC:** 051007-UCD

Protocol:

Reagent/Constituent	Volume (μL)
Water	5.6
GoTaq® G2 Colorless Master Mix, 2X	7.5
Primer 1. (stock concentration is 20μM)	0.45
Primer 2. (stock concentration is 20μM)	0.45
DNA (example) extracted w/ "Qiagen DNeasy columns or other similar silica based kits"	1.0
TOTAL VOLUME	
	15

Comments on protocol:

- Protocol may work with other DNA extraction methods.
- 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.
- Strains 44051, 46054, 46256, 46257, 46258, 46266, 46268, 46269, 46270 share similarities. PstI digest distinguishes between Ptpca and Ptpca*. Primers 3 and 4 are to detect ΔC strain which is present in 26258.

Strategy:

Steps	Temp (°C)	Time (m:ss)	# of Cycles
1. Initiation/Melting HOT START? ☐	94	2:00	1x
2. Denaturation	94	0:10	
3. Annealing steps 2-3-4 cycle in sequence	65 (↓1°C/cycle)	0:30	10x
4. Elongation	68	2:00	
5. Denaturation	94	0:15	
6. Annealing steps 5-6-7 cycle in sequence	55	0:30	30X
7. Elongation	68 (+20s/cycle)	2:00	

Primers:

Electrophoresis Protocol:

Name	Nucleotide Sequence (5' - 3')	Argarose: 1.5%	V: 90
1. 51007-F	AGGACGATGAAGACGTGGAA	Estimated Running Time: 90 min.	
2. 51007-R	TGAGGCTTCAAGCTGTTGCT	Primer Combination	Band (bp)
		1 & 2	186

Acil digest

digest band size	
Wildtype	Mutant
88	188
98	

