

GENOTYPING PROTOCOL

MUTANT MOUSE RESOURCE & RESEARCH CENTER: UC DAVIS

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530-754-MMRRC

Protocol Name: **CR11257 II22 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
TOTAL VOLUME OF REACTION:	15.00 μL

Comments on protocol:

- Protocol may work with other DNA extraction methods.

Strategy:

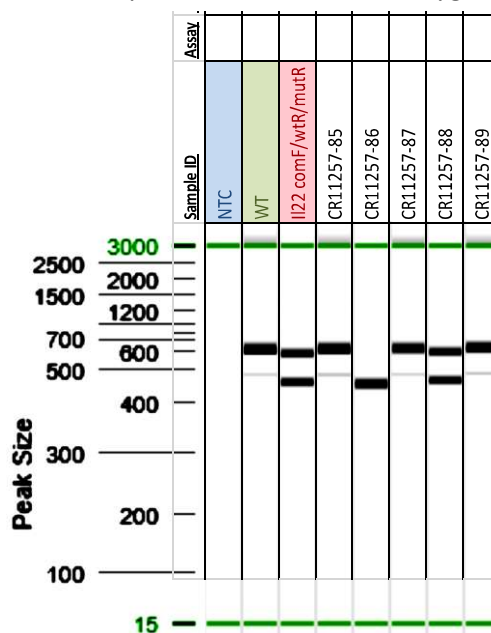
Steps	Temp (°C)	Time (m:ss)	# of Cycles
1. Initiation/Melting HOT START? ☐	94	2:00	1x
2. Denaturation	94	0:10	
3. Annealing steps 2-3-4 cycle in sequence	65 (↓1°C/cycle)	0:30	10x
4. Elongation	68	2:00	
5. Denaturation	94	0:15	
6. Annealing steps 5-6-7 cycle in sequence	55	0:30	25x
7. Elongation	68	2:00 (↑20sec/cycle)	
8. Finish	4	∞	n/a

Primers:

Electrophoresis Protocol:

Name	Nucleotide Sequence (5' - 3')	Agarose: 1.5%	V: 90
1. CR II22_comF	AGAAGATTTCTGGGATTTGTGTGC	Estimated Running Time: 90 min.	
2. CR II22_wtR	GACGATGTATGGCTGCTGGAAGT	Primer Combination	Band (bp)
3. CR II22_mutR	GTAGGTCCGTGGGAAGTGGCTTT	1 & 2, 1 & 3	573, 2713
		1 & 3	477
			Genotype
			wildtype
			mutant

Allele Description: Exon 1-4 (ENSMUSE00001029759, ENSMUSE00001018189, ENSMUSE00000979971, ENSMUSE00001042745) and flanking splicing regions were constitutively deleted from the II22 gene ENSMUSG00000074695 using CRISPR Cas9 gene editing technology in mouse zygotes. Subsequent founders were backcrossed to C57BL6/N to produce sequence confirmed heterozygous animals.



PCR protocol developed by MMRRC at University of California, Davis