

GENOTYPING BY PCR PROTOCOL
MUTANT MOUSE REGIONAL RESOURCE CENTER: UC DAVIS
 2795 2nd Street, Suite 400, Davis, CA 95618
mmrrc@ucdavis.edu
 530-754-MMRRC

NAME OF PCR: STOCK Tg(Cryab-EGFP)HS240Gsat/Mmcd MMRRC # 030580-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)	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 ☐ NaOH ☒ Proteinase K ☐ Other:	1.0	
TOTAL VOLUME OF REACTION:		25μL

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 MgCl₂ to increase reaction or decrease non specific amplifications.

Strategy:

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

Primers:

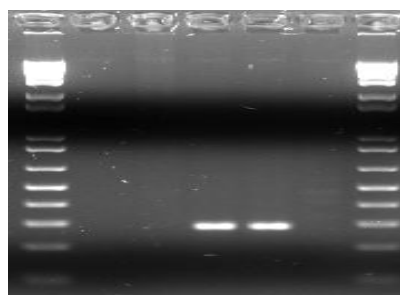
Name	Nucleotide Sequence (5' - 3')
1. Cryab (30580) F1	GCCAACCGACTCTGCATTCATCTA
2. GFP R2	TAGCGGCTGAAGCACTGCA

Electrophoresis Protocol:

Agarose: 1.5% V: 90

Estimated Running Time: 90 min.

Primer Combination	Band	Genotype
1 and 2	290 bp	transgenic



1 2 3 4 5 6 7

Lanes
 1 & 7. 1 kb+ ladder
 (Invitrogen, Cat. #10787-026)
 2. Non-template control
 3. Wild-type Control
 4 & 5. Cryab tg/+
 6. Other GENSAT line