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Rad18 (MAIL; EPD0027_4_B02)

Allele: Rad18^{tm1a(EUCOMM)Wtsi}

Genotyping Information

These mice may be genotyped through a combination of separate PCR reactions that detect *LacZ*, the gene-specific wild type allele, and a mutant allele-specific short range PCR. Interpretation of the consolidated results produces the genotype of the mice.

For example: *LacZ* positive, mutant positive, wild type positive = heterozygous.

PCRs primer pairs and expected size bands

| PCR type | Forward primer | Reverse primer | Expected size band (bp) |
|---------------|----------------|----------------|-------------------------|
| Mutant PCR | Rad18_F | CAS_R1_Term x | 288 |
| Wild type PCR | Rad18_F | Rad18_R | 635 |
| LacZ PCR | LacZ_2_small_F | LacZ_2_small_R | 108 |

Primer sequences

| Primer name | Primer sequence (5' > 3') | | |
|----------------|---------------------------|--|--|
| CAS_R1_Term | TCGTGGTATCGTTATGCGCC | | |
| Rad18_F | CCATGAGGAGGGTGGGTATG | | |
| Rad18_R | CCTGGCAAACAATTTTCCCTC | | |
| LacZ_2_small_F | ATCACGACGCGCTGTATC | | |
| LacZ_2_small_R | ACATCGGGCAAATAATATCG | | |

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Reaction

| Reagent | μΙ |
|-----------------------------------|-------------|
| | |
| DNA (~50-100 ng) | 1.0 |
| 10x Buffer | 2.0 |
| MgCl ₂ (50 mM) | 0.6 |
| PtTaq (Platinum Taq (Invitrogen)) | 0.2 |
| dNTPs (100 mM) | 0.2 |
| Primer 1 (10 μM) | 0.4 |
| Primer 2 (10 μM) | 0.4 |
| H_2O | <u>15.2</u> |
| Total | 20.0 |

> Cycling conditions

Wild type and mutant PCRs

Go to '2' + 34 cycles

forever

72 °C 5 min

12 °C

| Cycle | | | Cycle | | |
|-------|-------|--------|-------|-------|--------|
| 1 | 94 °C | 5 min | 1 | 94 °C | 5 min |
| 2 | 94 °C | 30 sec | 2 | 94 °C | 30 sec |
| 3 | 58 °C | 30 sec | 3 | 60 °C | 30 sec |
| 4 | 72 °C | 45 sec | 4 | 72 °C | 30 sec |

LacZ PCR

Go to '2' + 34 cycles

5 min

forever

72 °C

12 °C

5

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