

EMMA ID: *EM:14739*

Gene: *Esy1*

Common name: *Esy1-em1_4*

Allele: *Esy1*^{*em1(IMPC)Hmgu*}

Allele Information

For more information on production, guides and mutation, search for gene/project, go to project summary, go to production plan, go to production outcome and "more details"

<https://www.gentar.org>

IMPC mouse phenotype data, search by the gene name
<http://www.mousephenotype.org/>

Genotyping Information

Genotyping by end-point PCR based on gel is composed of a genespecific short range PCR using primers on wild type allele and a mutant allele-specific short range PCR. The combined results show the genotype of the mice. For example: mutant positive, wild type positive = Heterozygous. In addition to the expected product, the mutant assay may also amplify the endogenous wild type sequence, which will appear as a larger band on an agarose gel. The presence of this extra band will depend on the size of the original deletion.

PCR primer pairs and expected size bands

Assay	Forward Primer	Reverse Primer	Expected Size Band (bp)
Wild type	Esy1_F	Esy1_wtR	436
Mutant	Esy1_F	Esy1_R	226/627(wt)
Run wt and mut PCR separately			

Primer sequences

Primer Name	Sequence 5' --> 3'
Esy1_F	CATCCCTGTCCAGTTGATGTC
Esy1_R	TCTGTTGGACTTGAATGTCAGG
Esy1_wtR	AAAGCTGGAGTCAAGGGCATG

PCR setup (AllTaq)

Component	Volume (μl) 1x	Final conc.
DNA (~ 50-100 ng)	2	
Q-Solution (5x)	2,5	0,5
PCR-Buffer (5x)	5	1
DNTP mix (10 mM)	0,5	0,2
MgCl ₂ (25 mM)	1,5	1,5
Primer 1 (10 pmol/μl)	1	0,4
Primer 2 (10 pmol/μl)	1	0,4
Primer 3 (10 pmol/μl)	1	0,4
Taq Polymerase (5 U/μl)	0,5	2,5 U/rxn
H ₂ O*	10	
Final volume	25	

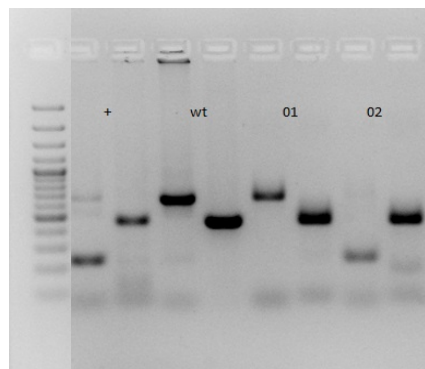
* The amount of H₂O is adjusted with the number of primer.

Amplification conditions

PCR Settings	Temperature (°C)	Time	# of cycles
1 Denaturation (Melting)	95°C	5 min	1
2 Amplification (Melting, Annealing, Polym.)	94°C 63°C 72°C	30 sec 45 sec 45 sec	39
3 Polymerisation	72°C	10 min	1
4 Cooling	4°C	hold	1

Touch-Down cycling protocol: first 10 cycles anneal at 65°C, decreasing 1°C per cycle, next 30 cycles anneal at 55°C. These PCR conditions have been optimized for our methods and preparation

Gel Image



+ **het control**
1 **wt**
2 **het**

lane 1 mut PCR
lane 2 wt PCR

Separated by gel electrophoresis on a 2% agarose gel.