



## Genotyping protocol

Fpqs

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(ICS internal reference)

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## TABLE OF CONTENTS

**Table of contents** .....2

**1. Genotyping protocol and data** .....2

    1.1. Genotyping strategy .....2

    1.2. PCR protocol .....4

    1.3. Picture of genotyping with various alleles .....5

**2. Cre and Flp genotyping method** .....6

    2.1. Cre and Flp genotyping .....6

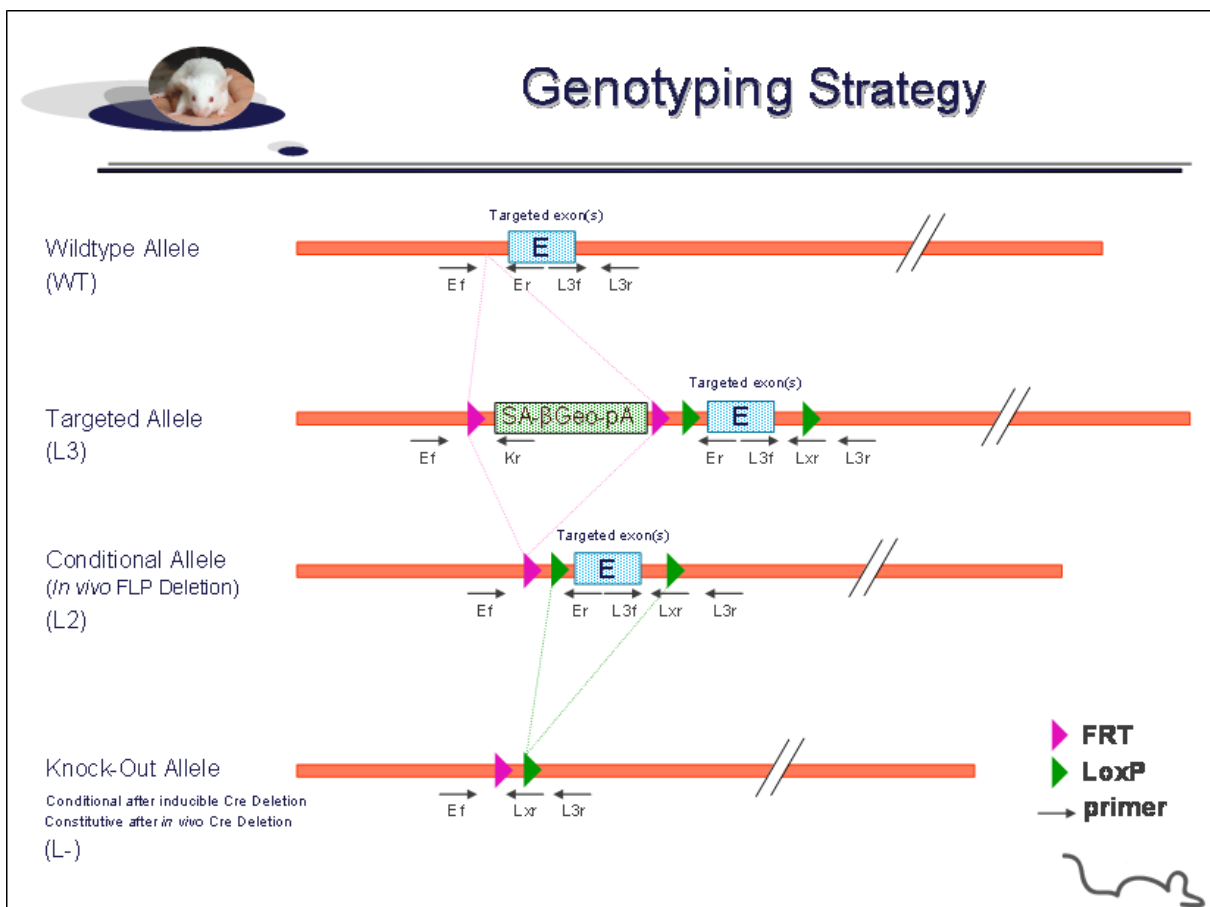
    2.2. PCR Protocol .....7

### 1. Genotyping protocol and data

This section describes the condition used at the Mouse Clinical Institute (ICS) to genotype your **Fpgs** Constitutive Knockout / Conditional Knockout (KO-cKO) project.

#### 1.1. Genotyping strategy

The map below describes the position of the primers used for genotyping for each possible allele.



### Sequence of primers used for genotyping:

Position	Primers	Sequence
Ef	4529	CCTTAGGGTGTCTGTTAGGGTCCCG
Er	4534	GCTTGGCAAAGCTGGCCATCCG
Kr	3278	GGCAAGAACATAAAGTGACCCTCC
L3f	4530	GGCTCCACCTGTGCCTTCACCG
L3f <sup>2</sup>	4531	AAACTCCTCCCCAGGCCTGCC
L3r	4532	GGTGGCTCACACCCGCAACTCC
L3r <sup>2</sup>	4533	ACCAAGTTGTGCAGTGCGGTGG
Lxr	3255	ACTGATGGCGAGCTCAGACCATAAC

<sup>2</sup>. For a selected position, a second primer was designed

### PCR fragments expected size (bp):

Region analyzed	Primers used	Position on the primer (see the map above)	Targeted allele (KO allele) (L3)	cKO allele (L2)	KO allele (L-)	WildType allele (WT)
5' part of the selection marker	4529-3278	Ef / Kr	527	---	---	---
Presence of the distal loxP	4530-4532	L3f / L3r	657	657	---	644
Distal loxP specific PCR	4531-3255	L3f <sup>2</sup> / Lxr	398	398	---	---
Excision of the selection marker	4529-4534	Ef / Er	7509*	605**	---	478
Excision of the floxed exon(s), i.e. knock out	4529-4533	Ef / L3r <sup>2</sup>	8438*	1534*	828**	1394**

\*: this PCR product will not be observed using our PCR genotyping conditions (see description below)

\*\* : this PCR is only verified if mice are generated

---: no Amplicon should be obtained

## 1.2. PCR protocol

This section describes the composition of the mix and cycling conditions used for genotyping.

Reagents:	Volume:
- FastStart PCR Master (Roche)	7.5µl
- DNA (50ng/µl)	1.5µl
- 5' primer (100 µM)	0.06µl
- 3' primer (100 µM)	0.06µl
- Sterile H <sub>2</sub> O	up to 15 µl

### Cycling conditions:

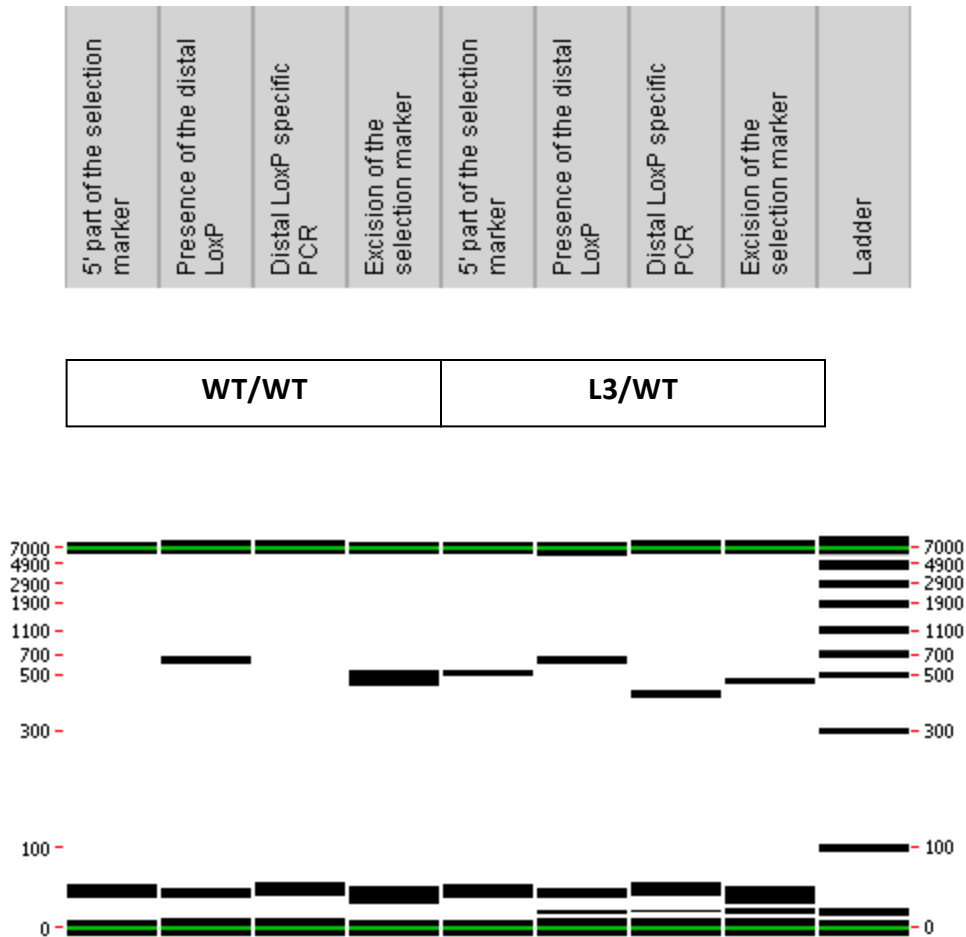
Temp	Time	#Cycles
95°C	4min	1
94°C	30s	34
62°C	30s	
72°C	1min	
72°C	7min	1
20°C	5min	1

**NB: These PCR conditions have been optimized for high-throughput genotyping. Adaptation to small-scale may be required.**

### 1.3. Picture of genotyping with various alleles

Analysis of PCR products pattern was not done by gel electrophoresis but using LabChip® 90 microfluidic apparatus. PCR products were run on the HT DNA 5K LabChip® 90 Assay Kit.

Representative genotyping picture



Note that as this technology is more sensitive than gel analysis, non specific signals and/or primer dimers may be visible on the picture.

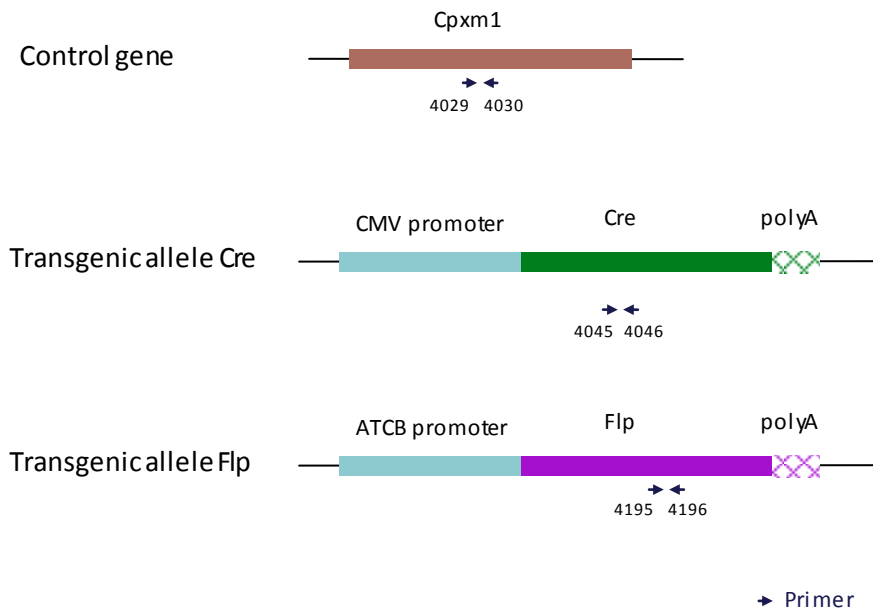
## 2. Cre and Flp genotyping method

The protocol used to segregate the cre and/or flp transgene is indicated below.

Detection of cre transgene and flp transgene is done using a multiplex assay: primer pairs were designed for each gene and for a positive control (Cpxm1 gene).

### 2.1. Cre and Flp genotyping

#### Schematic representation of the genotyping strategy



#### Sequence of primers used for genotyping:

Primers	Sequence
4029	ACTGGGATCTTCGAACTCTTTGGAC
4030	GATGTTGGGGCACTGCTCATTACCC
4045	CCATCTGCCACCAGCCAG
4046	TCGCCATCTTCCAGCAGG
4195	TCTTTAGCGCAAGGGGTAGGATCG
4196	GTCCTGGCCACGGCAGAAGC

#### PCR fragments expected size (bp):

Primer pair	4045-4046	4195-4196	4029-4030
Region analyzed	Middle part of Cre transgene	Middle part of Flp transgene	Cpxm1 control gene
Control gene	/	/	446
Tg allele	281	328	/

## 2.2. PCR Protocol

This section describes the composition of the mix and cycling conditions used for genotyping.

Reagents	Volume
FastStart PCR Master (Roche)	7.5 $\mu$ l
DNA (50ng/ $\mu$ l)	1.5 $\mu$ l
5' primer (100 $\mu$ M)	0.05 $\mu$ l
3' primer (100 $\mu$ M)	0.05 $\mu$ l
Sterile H <sub>2</sub> O	up to 15 $\mu$ l

Cycling conditions are identical to those described in chapter 1.2