



Jmjd5 (IR00002181 / E14 ICS internal reference) mouse line genotyping protocol

Table of contents

Table of contents	1
1. Genotyping protocol and data	2
1.1. Genotyping strategy	2
1.2. PCR protocol	3
1.3. Picture of genotyping with various alleles	4
2. Cre and Flp genotyping method	5
2.1. Cre genotyping	5
2.2. Flp genotyping	6

For any question, please contact:

Mouse Clinical Institute – Institut Clinique de la Souris (ICS)

ICS genotyping service

1 rue Laurent Fries, BP 10142

67404 Illkirch Cedex France

Email: genotyping@igbmc.u-strasbg.fr

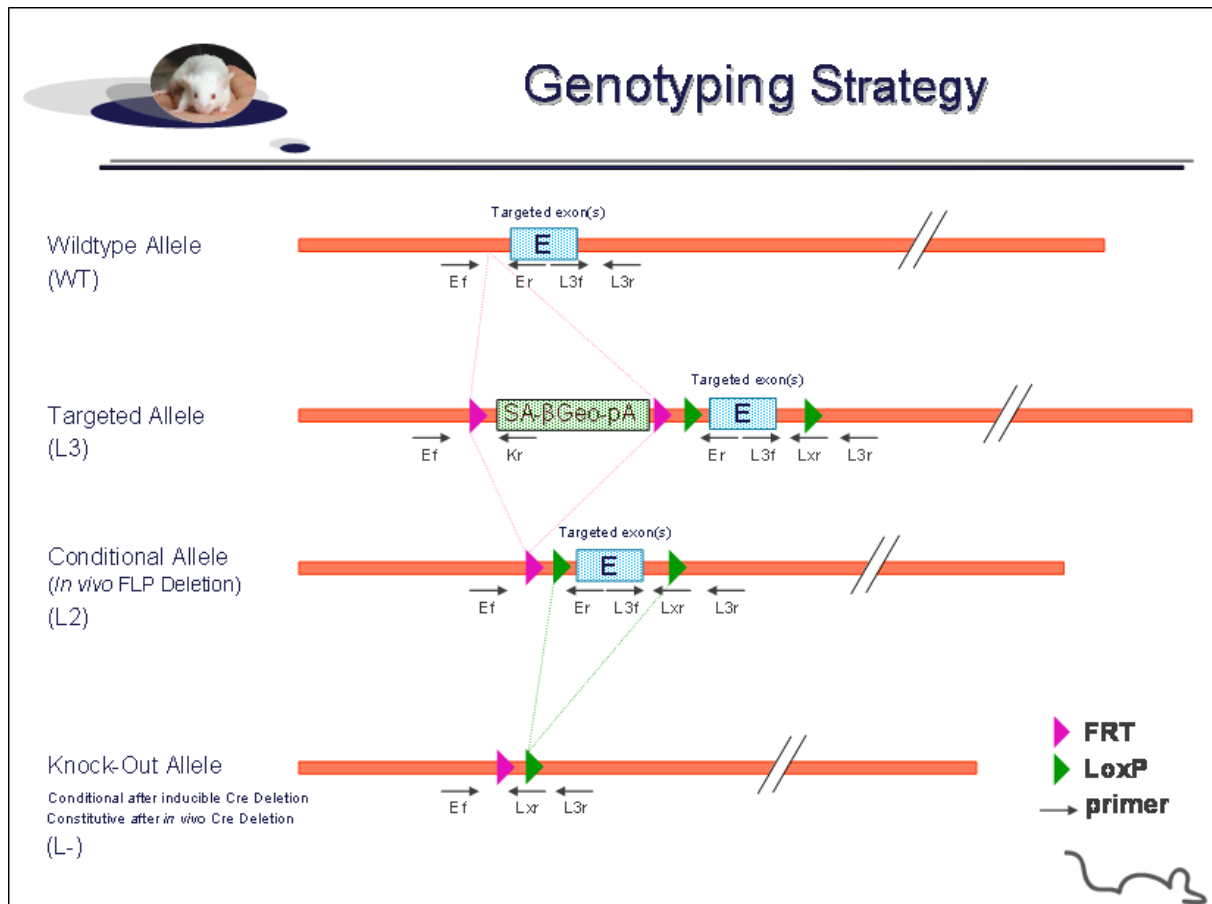
This protocol has been validated by Karim Essabri.

1. Genotyping protocol and data

This section describes the condition used at the Mouse Clinical Institute (ICS) to genotype your **Jmjd5** 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	3600	GCAGTGCAGCCATTTGTG
Er	3601	CCAGTGCTCCAGAGCCATC
Kr	3277	CTCCTACA TAGTTGGCAGTGT TTTGGG
L3f	3602	CCAGGACTCCGCAAAGG
L3f ²	3603	CACTGGCCGTGCA TGAAG
L3r	3604	CACACTCAGGATGGCCC
Lxr	3255	ACTGATGGCGAGCTCAGACCATAAC

². For a selected position, a second primer was designed



Genotyping protocol

Jmjd5 (IR00002181 / E14 ICS internal reference)

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)
Excision of the floxed exon(s), i.e. knock out	3600-3604	Ef / L3r	6797*	1397*	580**	1278**
5' part of the selection marker	3600-3277	Ef / Kr	490	---	---	---
Presence of the distal loxP	3602-3604	L3f / L3r	282	282**	---	300
Distal loxP specific PCR	3603-3255	L3f ^z / Lxr	266	266**	---	---
Excision of the selection marker	3600-3601	Ef / Er	5976*	576**	---	439

* 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:

- 10x Buffer (Roche)
- dNTPs 10mM (Amersham Biosciences)
- Taq DNA Polymerase (Roche)
- DNA (50ng/μl)
- 5' primer (100 μM)
- 3' primer (100 μM)
- Sterile H2O

Volume:

- 2.5μl
- 0.5μl
- 0.2μl
- 3μl
- 0.125μl
- 0.125μl
- up to 25 μl

Cycling conditions:

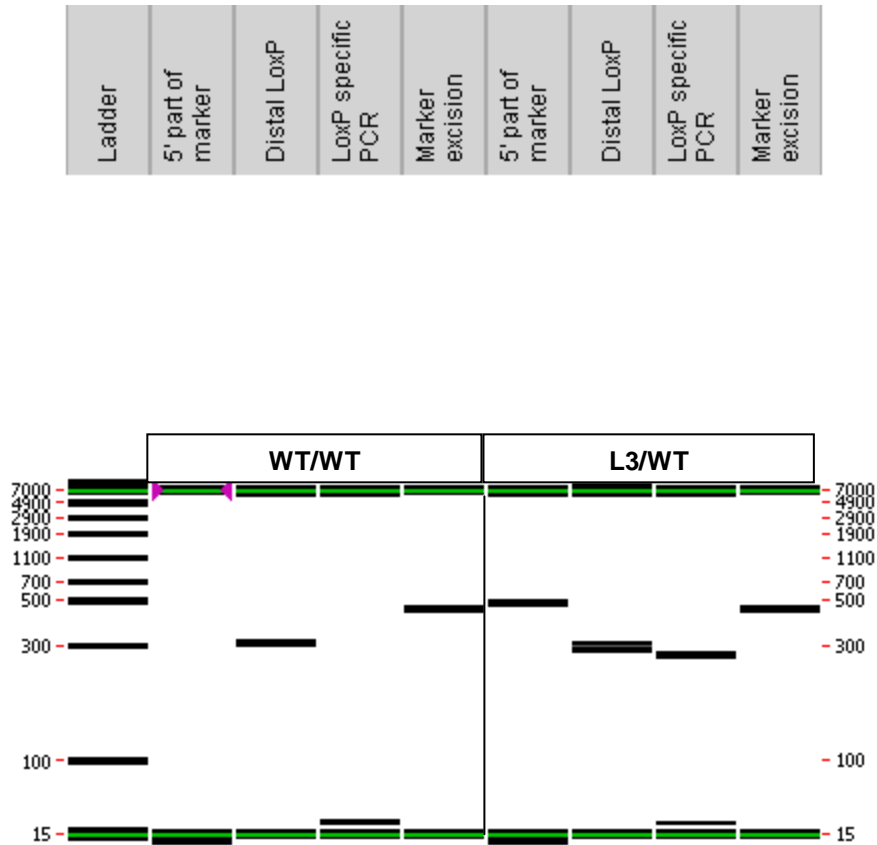
Temp	Time	#Cycles
94°C	3min	1
94°C	1min	2
62°C	1min	
72°C	1min	
94°C	30s	30
62°C	30s	
72°C	30s	
72°C	3min	1
4°C	∞	

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



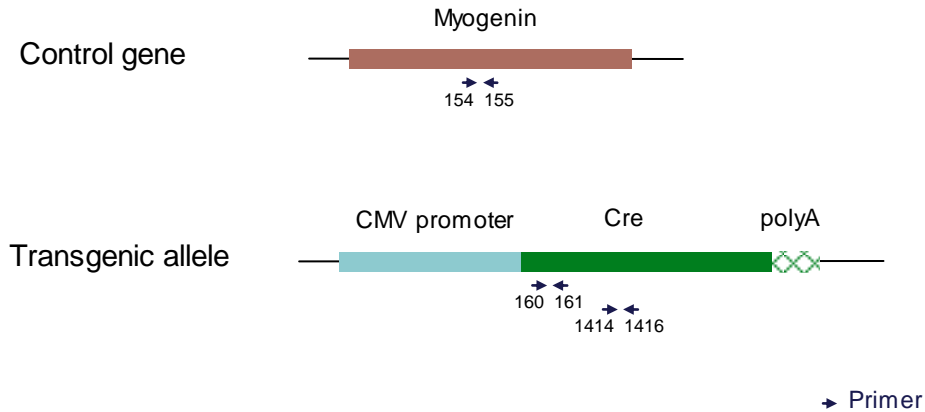
Note that as this technology is more sensitive than gel analysis, non specific signals and/or primer dimers may be visible on the picture.

2. Cre and Flp genotyping method

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

2.1. Cre genotyping

Schematic representation of the genotyping strategy



Sequence of primers used for genotyping

Primers	Sequence
154	ACTCCCTTACGTCCATCGTG
155	ACCCAGCCTGACAGACAATC
160	GAACCTGATGGACATGTTTCAGG
161	AGTGCGTTCGAACGCTAGAGCCTGT
1414	CGTACTGACGGTGGGAGAAAT
1416	CCCGGCAAAACAGGTAGTTA

PCR fragments expected size (bp):

Primer pair	160-161	1414-1416	154-155
Region analyzed	5' part of Cre transgene	Middle of Cre transgene	Myogenin control gene
Control gene	/	/	99
Tg allele	345	165	/

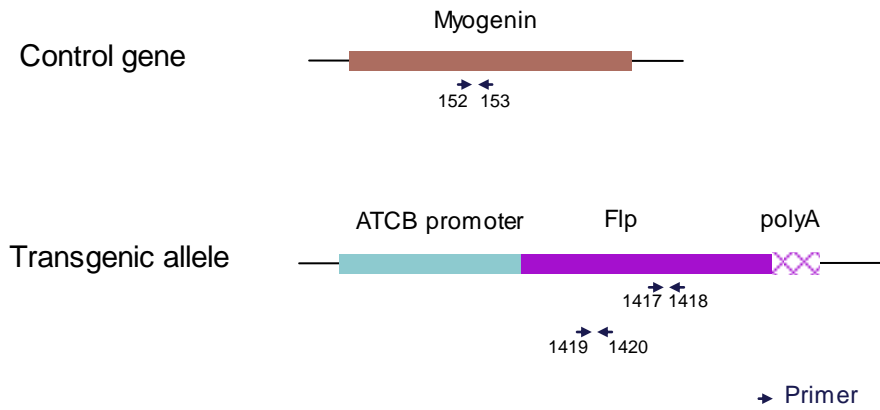
Cycling conditions:

Temp	Time	#Cycles
95°C	3min	1
95°C	10s	35
62°C	20s	
72°C	20s	
95°C	5s	1 (melting curve generation)
62°C	30s	
72°C	72s	
37°C	30s	1
4°C	∞	

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

2.2. Flp genotyping

Schematic representation of the genotyping strategy



Sequence of primers used for genotyping

Primers	Sequence
152	TTACGTCCATCGTGGACAGC
153	TGGGCTGGGTGTTAGCCTTA
1417	TTCTTTAGCGCAAGGGGTAG
1418	GCTCCAATTTCCCACAACAT
1419	TGGGAAATTGGAGCGATAAG
1420	CTGCCACTCCTCAATTGGAT

PCR fragments expected size (bp):

Primer pair	1417-1418	1419-1420	152-153
Region analyzed	Middle part of Flp transgene	5' of Flp transgene	Myogenin control gene
Control gene	/	/	245
Tg allele	299	175	/

PCR protocol and cycling conditions are identical to those described in chapter 1.2