phenomin

EXCELLENCE IN MOUSE PHENOGENOMICS

Genotyping protocol

Project Bnc2

(PHENOMIN-ICS reference IR00006074 / P6074)

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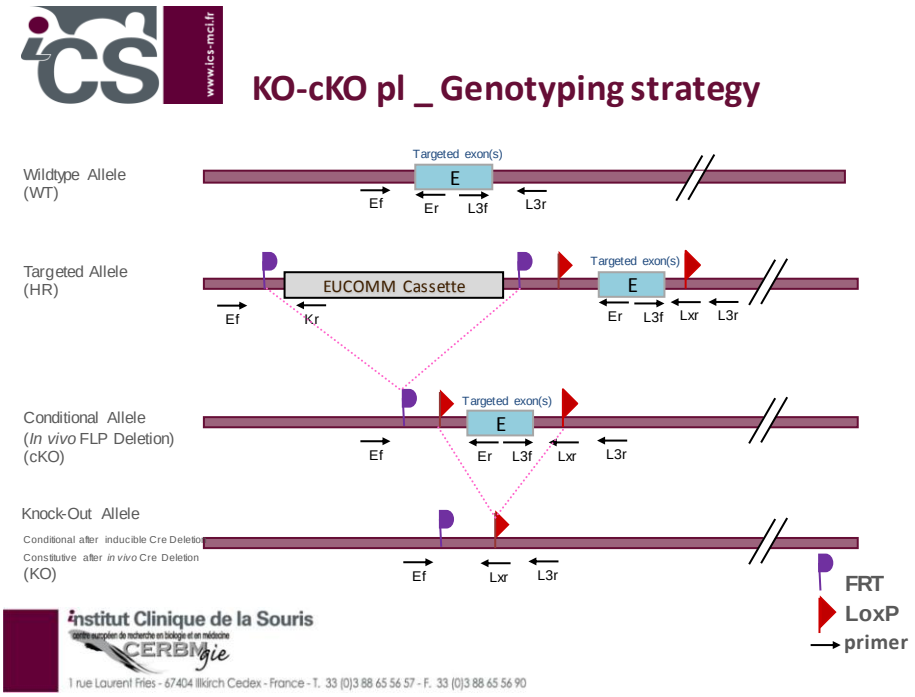
1. Genotyping protocol and data

This section describes the condition used at the Mouse Clinical Institute (ICS) to genotype your **Bnc2** 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	9321	CGCTTGTGGGGAACTGAAAGGC
Er	9325	CACAATGATGCTAAGAAGACACCAGCC
Kr	3277	CTCCTACATAGTTGGCAGTGTTTGGG
L3f	9322	GAGAAGAGAGCGGTCATCGGTGC
L3f[2]	9323	GGTGAGGAAATCGAGGCTCCTCTTTC
L3r	9324	GTTCCTGCTGGCTGCTGCTGTG
Lxr	3255	ACTGATGGCGAGCTCAGACCATAAC
Mqf	4981	GGGATCTCATGCTGGAGTTCTTCG

[2]: 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 (HR)	conditional allele (KO-cKO)	KO allele	WildType allele
5' part of the selection marker (with Betaine)	9321-3277	Ef / Kr	412	---	---	---
Presence of the distal loxP	9322-9324	L3f / L3r	226	226	---	172
Distal loxP specific PCR	9323-3255	L3f[2] / Lxr	294	294	---	---
Excision of the selection marker (with Betaine)	9321-9325	Ef / Er	5912*	512	---	366
Exon excision	4981-3255	Mqf / Lxr	1245*	---	424	---

*: this PCR product will not be observed using our PCR genotyping conditions (see description below)
---: 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_2O	up to 15 µl

Cycling conditions:

Temp	Time	#Cycles
95°C	4min	1
94°C	30s	
62°C	30s	34
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.

2. Cre and Flp genotyping method

You will find the genotyping protocol in the publication:

Highly-efficient, fluorescent, locus directed cre and FlpO deleter mice on a pure C57BL/6N genetic background.
Birling MC, Dierich A, Jacquot S, Hérault Y, Pavlovic G.
Genesis. 2012 Jun;50(6):482-9. doi: 10.1002/dvg.20826. Epub 2012 Mar 20.