

B6.129P2-*Lgr5*^{tm1(cre/ERT2)Cie} /J

Stock No: **008875** | *Lgr5*-EGFP-IRES-creERT2

 **Congenic, Targeted Mutation**

Live mice available in varying quantities. Ask Customer Service for details.

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expresses EGFP and CreERT2 fusion protein. When these mice are bred with mice containing a *loxP*-flanked sequence of interest, tamoxifen-inducible, Cre-mediated recombination will result in deletion of the floxed sequences in the *Lgr5*-expressing cells of the offspring. These mice may be useful for lineage-tracing or marking *Lgr5*-expressing stem cells of the small intestine.

Donating Investigator

Hans Clevers, Hubrecht Institute

R E A D M O R E +

GENETIC OVERVIEW

Genetic Background

Generation

N11+N4F5
(2019-12-31 00:00:00)

***Lgr5*^{tm1(cre/ERT2)Cie}**

Alele Type

Targeted (Recombinase-expressing, Reporter, Inducible)

Gene Symbol

Lgr5

Gene Name

leucine rich repeat containing G protein coupled receptor 5

V I E W G E N E T I C S

RESEARCH APPLICATIONS

Research Tools
Cancer Research
Internal/Organ Research

BASE PRICE

Starting at:

\$270.00 Domestic price for female 4-week

348.51 Domestic price for breeder pair

VIEW PRICE LIST

Details

Important Note

The donating investigator reports variegated expression of the *Lgr5*-EGFP-IRES-CreERT2 transgene in the small intestine and colon (something which may happen often with genes that are expressed early during intestinal development). This variegated expression is advantageous for performing clonal lineage tracing and sorting intestinal stem cells, but may have limitations for more quantitative studies such as *Lgr5*-Cre driven knockout strategies.

Detailed Description

While homozygous mice are not viable, heterozygous *Lgr5*-EGFP-IRES-CreERT2 mice are viable and fertile; harboring a *Lgr5*-EGFP-IRES-creERT2 "knock-in" allele that both abolishes *Lgr5* (*Gpr49*) gene function and expresses EGFP and CreERT2 fusion protein from the *Lgr5* promoter/enhancer elements. EGFP fluorescence is observed in crypt base columnar cells in small intestine (aka stem cells of the small intestine) and colon. Cre-ERT2 fusion gene activity is inducible; observed in the same cells only following tamoxifen administration. EGFP or inducible CreERT2 expression may also be observed in other *Lgr5*-expressing cell types (including pre-malignant mouse adenomas, colon cancer cells, epithelial stem cells of the stomach gland, basal epithelial layer stem cells of the mammary glands, and hair follicle stem cells).

The donating investigator reports variegated expression of the *Lgr5*-EGFP-IRES-CreERT2 transgene in the small intestine and colon (something which may happen often with genes that are expressed early during intestinal development). This variegated expression is advantageous for performing clonal lineage tracing and sorting intestinal stem cells, but may have limitations for more quantitative studies such as *Lgr5*-Cre driven knockout strategies.

The Cre-ERT2 fusion protein consists of Cre recombinase fused to a triple mutant form of the human estrogen receptor; which does not bind its natural ligand (17 β -estradiol) at physiological concentrations but will bind the synthetic estrogen receptor ligands 4-hydroxytamoxifen (OHT or tamoxifen) and, with lesser sensitivity, IC1 182780. Restricted to the cytoplasm, Cre-ERT2 can only gain access to the nuclear compartment after exposure to tamoxifen. To counteract the mixed estrogen agonist effects of tamoxifen injections, which can result in late fetal abortions in pregnant mice, progesterone may be coadministered. As such, when *Lgr5*-EGFP-IRES-creERT2 mice are bred with mice containing *loxP*-flanked sequence of interest, tamoxifen-inducible, Cre-mediated recombination will result in deletion of the floxed sequences in the *Lgr5*-expressing cells of the offspring.

[View](#) cre expression characterization.

Development

[+ Expression Data](#)

[+ Control Suggestions](#)

[+ Selected References](#)

[- Genetics](#)

[+ *Lgr5^{tm1\(cre/ERT2\)Cle}*](#)

[- Disease/Phenotype](#)

[+ Disease Terms](#)

[+ Research Areas By Phenotype](#)

[+ Mammalian Phenotype Terms by Genotype](#)

[+ References](#)

[- Technical Support](#)

C O N T A C T T E C H N I C A L S U P P O R T

Genotyping Protocols

Standard PCR:[Lgr5 alternate2](#)

[Genotyping resources and troubleshooting](#)

Dietary Information

LabDiet® 5K52 formulation (6% fat)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together, to wildtype siblings, or to C57BL/6J inbred mice (Stock No. [000664](#)). Homozygous mice are not viable.

[Additional Breeding and Husbandry Support](#)

Mating System

+/+ sibling x Heterozygote

Citation

When using the Lgr5-EGFP-IRES-creERT2 mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #008875 in your Materials and Methods section.

Animal Health Reports

[Facility Barrier Level Descriptions](#)

 [AX10 \(Standard\)](#)

🔍 Pricing & Availability



Live mice available in varying quantities. Ask Customer Service for details.

Available

Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations

LIVE MOUSE			
AGE	SEX	GENOTYPE	PRICE
4 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
4 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
5 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
5 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
6 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
6 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
7 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
7 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
8 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00

	SEX	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
8 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
9 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
9 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
10 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
10 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
11 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
11 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
12 weeks	Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
	Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}	\$270.00
12 weeks	Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51
	Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}	\$78.51

BREEDER PAIR			
SEX	GENOTYPE		PRICE
Female	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}		\$348.51
Male	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}		
Female	Wild-type for Lgr5 ^{tm1(cre/ERT2)O/e}		\$348.51
Male	Heterozygous for Lgr5 ^{tm1(cre/ERT2)O/e}		

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Q U E S T I O N S A B O U T T E R M S O F U S E

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LICENSING INFORMATION

Phone: 207-288-6470

Email: TechTran@jax.org

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