

## B6.129-Vil1<sup>tm1Gum</sup>/J

Stock No: 028946 | Vil-lacZ knock-in/knock-out

 Congenic, Targeted Mutation

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

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fusion transcript encoding the 18 N-terminal amino acids of villin fused in-frame to the  $\beta$ -galactosidase cDNA. Expression of *lacZ* is directed to villus and crypt epithelial cells, along the entire small intestine and colon, in a cephalocaudal gradient similar to the expression pattern of endogenous *Vil1*. These mice may be useful in studying intestinal organogenesis, gastric stem cell biology and cancer.

### Donating Investigator

Deborah L Gumucio, University of Michigan

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## GENETIC OVERVIEW

Genetic Background

Generation

*Vil1<sup>tm1Gum</sup>*

### Alele Type

Targeted (Reporter, Null/Knockout)

### Gene Symbol

*Vil1*

### Gene Name

villin 1

VIEW GENETICS

## RESEARCH APPLICATIONS

Research Tools

Cancer Research

Internal/Organ Research

VIEW ALL RESEARCH APPLICATIONS

## BASE PRICE

Starting at:

\$2,854.50 Domestic price Cryo Recovery

V I E W P R I C E L I S T

### Details

#### Detailed Description

In adult mice, the villin 1 gene (*Vil1*) is highly expressed specifically in the intestinal epithelial cells, whereas the gastric epithelium is largely devoid of villin. The Vi-LacZ knock-in/knockout allele (also called Villin <sup>$\beta$ -gal</sup>) has *lacZ* replacing exons 1-3 of the *Vil1* locus. This abolishes endogenous gene function and results in the villin 1 promoter/enhancer regions directing expression of a fusion transcript encoding the 18 N-terminal amino acids of villin fused in-frame to the  $\beta$ -galactosidase cDNA. No villin protein expression from this null allele is observed in intestinal epithelial tissue. Homozygous villin-deficient mice are viable and fertile with no gross abnormalities. Subtle ultrastructural alterations in the microvillar actin core of the intestine are reported in homozygotes. Villin/*lacZ* expressing cells are easily detectable by X-gal staining, both in whole embryos and in sections. Specifically, *lacZ* expression is primarily in villus and crypt epithelial cells, along the entire small intestine and colon, in a cephalocaudal gradient similar to the expression pattern of endogenous *Vil1*. Additionally, a rare population of gastric progenitor cells (GPCs) in the antrum are *lacZ* positive in an otherwise *lacZ* negative adult gastric epithelium.

#### Development

#### Expression Data

#### Control Suggestions

#### Selected References

### Genetics

#### *Vil1*<sup>tm1Gum</sup>

## – Disease/Phenotype

+ [Disease Terms](#)

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+ [Research Areas By Phenotype](#)

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+ [Mammalian Phenotype Terms by Genotype](#)

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+ [References](#)

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## – 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: [Vil1-Alternate 1](#)

[Genotyping resources and troubleshooting](#)

### Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together, to wildtype mice from the colony or to inbred mice (either C57BL/6J [Stock No. [000664](#)] or C57BL/6NJ [Stock No. [005304](#)]). Alternatively, homozygous mice may be bred together.

[Additional Breeding and Husbandry Support](#)

### Citation

When using the Vil-lacZ knock-in/knock-out mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #028946 in your Materials and Methods section.

### Animal Health Reports

[Facility Barrier Level Descriptions](#)

*Production of mice from cryopreserved embryos or sperm occurs in a maximum barrier room, [G200](#)*

## – Pricing & Availability



Cryo

Typically mice are recovered in 10-14 weeks. Contact Customer Service to place an order or for more information.

# Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations

## CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Herterozygous or wildtype for Vil1<tm1Gum>	\$2,854.50

## RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6.129-Vil1<tm1Gum>/J Frozen Embryo	\$2595.00
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## PAYMENT TERMS AND CONDITIONS

Terms are granted by individual review and stated on the customer invoice(s) and account statement. These transactions are payable in U.S. currency within the granted terms. Payment for services, products, shipping containers, and shipping costs that are rendered are expected within the payment terms indicated on the invoice or stated by contract. Invoices and account balances in arrears of stated terms may result in The Jackson Laboratory pursuing collection activities including but not limited to outside agencies and court filings.

## THE JACKSON LABORATORY'S GENOTYPE PROMISE

The Jackson Laboratory has rigorous genetic quality control and mutant gene genotyping programs to ensure the genetic background of JAX® Mice strains as well as the genotypes of strains with identified molecular mutations. JAX® Mice strains are only made available to researchers after meeting our standards. However, the phenotype of each strain may not be fully characterized and/or captured in the strain data sheets. **Therefore, we cannot guarantee a strain's phenotype will meet all expectations.** To ensure that JAX® Mice will meet the needs of individual research projects or when requesting a strain that is new to your research, we suggest ordering and performing tests on a small number of mice to determine suitability for your particular project. We do not guarantee [breeding performance](#) and therefore suggest that investigators order more than one breeding pair to avoid delays in their research.

## Terms Of Use

### TERMS OF USE

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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

### ADDITIONAL USE RESTRICTIONS APPLY

[Use of MICE by companies or for-profit entities requires a no-fee JAX Leap License prior to shipping.](#)

### LICENSING INFORMATION

Phone: 207-288-6470

Email: [TechTran@jax.org](mailto:TechTran@jax.org)

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