

NOD.B6-Tg(Ins2-luc/EGFP/TK)300Kauf/JStock No: **013116** | NOD.MIP-TF **Congenetic, Transgenic**

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

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control of mouse insulin promoter. Longitudinal noninvasive imaging of beta cells in the same transgenic animal by CCD and microPET, and the identification of beta cells at the cellular level by fluorescent microscopy is possible. This transgenic model provides a new tool for monitoring beta cells from the single cell level to non-invasive longitudinal assessments of beta cells in animal models of type 1 diabetes.

Donating Investigator

Dr. Daniel L Kaufman, UCLA School of Medicine

[R E A D M O R E +](#)**GENETIC OVERVIEW****Genetic Background** **Generation**

001976 NOD/ShiLtJ

Tg(Ins2-luc/EGFP/TK)300Kauf**Alele Type**

Transgenic (Reporter)

[V I E W G E N E T I C S](#)**RESEARCH APPLICATIONS**Diabetes and Obesity Research
Research Tools[V I E W A L L R E S E A R C H A P P L I C A T I O N S](#)

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

Mice carrying tri-fusion transgene Ins2-luc/EGFP/Tk, commonly called MIP-TF, line 300 express a luciferase/enhanced green fluorescent protein/thymidine kinase fusion protein (luc/EGFP/Tk) under the control of mouse insulin promoter (Ins2) and are viable, fertile and exhibit no gross physical or behavioral abnormalities. On the C57BL/6 background, transgene expression, determined by luciferase enzymatic activity and green fluorescence is exclusive to the pancreas, specifically the insulin producing cells. Transgene expression appears to have no effect on weight, islet morphology, fasting blood glucose, or response to glucose challenge when compared to wild-type controls. This trifusion reporter model should enable longitudinal noninvasive imaging of beta cells in the same animal by cooled charge coupled device (CCD) and micro positron emission tomography (microPET), and identification of beta cells at the cellular level by fluorescent microscopy. There is a correlation between CCD and microPET signals from the pancreas region of the individual transgenic mice. After low dose streptozotocin treatment to induce type 1 diabetes, there is a reduction in the bioluminescence signals from the pancreas prior to the appearance of hyperglycemia. Conversely, pancreatic bioluminescence signals from the pancreas progressively increase (3.6 fold higher compared to control mice) in mice fed a high fat diet to model early type 2 diabetes. This transgenic model provides a new tool for monitoring beta cells from the single cell level to non-invasive longitudinal assessments of beta cells in animal models of type 1 diabetes.

In an attempt to offer alleles on well-characterized or multiple genetic backgrounds, alleles are frequently moved to a genetic background different from that on which an allele was first characterized. It should be noted that the phenotype could vary from that originally described. We will modify the strain description if necessary as published results become available.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(Ins2-luc/EGFP/TK)300Kauf

– 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

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, these mice can be bred non-carrier x hemizygous and reciprocal.

[Additional Breeding and Husbandry Support](#)

Citation

When using the NOD.MIP-TF mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #013116 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



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Domestic International

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Hemizygous or Non carrier for Tg(Ins2-luc/EGFP/TK)300Kauf	\$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	NOD.B6-Tg(Ins2-luc/EGFP/TK)300Kauf/J	\$2595.00
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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.

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Email: TechTran@jax.org

Related Strains

- All
- By Allele
- By Gene
- By Collection



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