

STOCK *Vegfa*^{tm1.1Nagy} /JStock No: **027314** | VEGF-A Hyper Targeted Mutation

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

PLACE ORDER

[Email](#)[Download PDF](#)[Help](#)

positive cells and tissues during embryonic vasculature development.

Donating Investigator

Andras Nagy, Lunenfeld-Tanenbaum Research Institute (LTRI), Mount Sinai Hospital

READ MORE +

GENETIC OVERVIEW

Genetic Background

Generation

Vegfa^{tm1.1Nagy}

Allele Type

Targeted (Reporter,
Null/Knockout)

Gene Symbol

Vegfa

Gene Name

vascular endothelial growth factor A

VIEW GENETICS

RESEARCH APPLICATIONS

Cardiovascular Research

Developmental Biology Research

Research Tools

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

Vascular endothelial growth factor A is a mitogenic glycoprotein specific for endothelial cells and is involved in vascular permeability, angiogenesis, vasculogenesis, cell migration, as well as endothelial cell growth. These VEGF-A hypermorphic mice, VEGF-A^{hyper}, carry a nuclear localized beta-galactosidase knock in mutation of the *Vegfa* gene.

Mice that are homozygous for the targeted knock-in allele have an embryonic lethal phenotype, dying between E12.5 and E14.5 with cardiac defects. Heterozygous mice are viable and fertile.

Northern blot analysis of homozygous embryos and Western blot analysis of heterozygous and homozygous embryos detects increased levels (two- to threefold) of mRNA and protein. While all 3 isoforms of the protein are detected (by RT-PCR of kidney tissue from E12.5 homozygotes), the increased levels of protein observed may be due to the 3' UTR insertion site of the IRES-*lacZ*.

Beta-galactosidase staining is detected as early as E4.0 in the primitive endoderm of heterozygotes. Single beta-galactosidase/VEGF positive cells are detected at E8.0 in the endoderm of heterozygotes. The *lacZ* reporter expression mimics the endogenous *Vegfa* gene expression pattern during development and adulthood.

Homozygous embryos exhibit edema, enlarged hearts with thin ventricle walls, and increased endocardial tissue. After hindlimb ischemia or cerebral artery ligation, heterozygotes have increased perfusion with improved recovery, collateral remodeling, and angiogenesis compared to wildtype controls.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Vegfa^{tm1.1Nagy}

⊖ 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: [Vegfa Alternate 2](#)

[Genotyping resources and troubleshooting](#)

Breeding Considerations

When maintaining a live colony, heterozygous mice may be bred together, to wildtype siblings, or to 129S1/SvImJ (Stock No. [002448](#)). Homozygotes are not viable.

[Additional Breeding and Husbandry Support](#)

Citation

When using the VEGF-A Hyper mouse strain in a publication, please [cite the originating article\(s\)](#) and include JAX stock #027314 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



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

DomesticInternational

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Heterozygous or wildtype for Vegfa<tm1.1Nagy>	\$2,854.50

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

[General Terms and Conditions](#)

QUESTIONS ABOUT TERMS OF USE

ADDITIONAL USE RESTRICTIONS APPLY

[Use of MICE by companies or for-profit entities requires a license prior to shipping.](#)

LICENSING INFORMATION

Phone: 207-288-6470

Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

By Collection



DO YOU NEED BALB/c MICE?

Rely on JAX to provide the models you need, when you need them.

LEARN MORE



CONTACT



DONATE



SUBSCRIBE

JAX HOME CAREERS LEGAL INFORMATION

RESEARCH CENTERS MOUSE GENOME INFORMATICS

MOUSE PHENOME DATABASE

Leading the search for

TOMORROW'S CURES



©2021 THE JACKSON LABORATORY

Choose other country or region



^ E E E D B

Did you find what you were looking for?

☐ Yes ☐ No