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STOCK Vegfa tm1.1Nagy /J Stock 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.

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leln

positive cells and tissues during embryonic vasculature development.

Donating Investigator

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RFAD MORF +

GENETIC OVERVIEW

Genetic Background

Generation

Vegfa^{tm1.1}Nagy

Allele Type

Gene Symbol

Gene Name

Targeted (Reporter, Null/Knockout)

Vegfa

vascular endothelial growth factor A

VIEW GENETICS

RESEARCH APPLICATIONS

Cardiovascular Research Developmental Biology Research Research Tools

BASE PRICE Starting at: \$2,854.50 Domestic price Cryo Recovery VIEW PRICE LIST

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^{nyper}, 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.

0	Development
0	Expression Data
0	Control Suggestions
•	Selected References

Genetics

Disease/Phenotype
 Disease Terms
 Research Areas By Phenotype
 Mammalian Phenotype Terms by Genotype
 References

Technical Support

CONTACT TECHNICAL SUPPORT

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/SvlmJ (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



DomestidInternation

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

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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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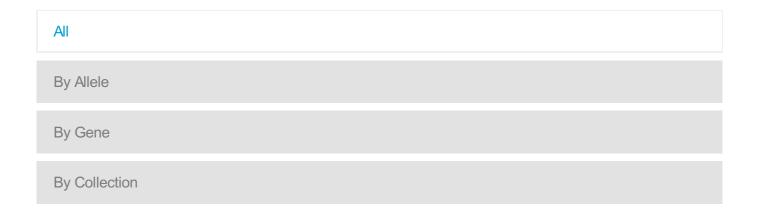
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LICENSING INFORMATION

Phone: 207-288-6470 Email: TechTran@jax.org







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