The Jackson Laboratory

B6.FVB-Tg(YAC128)53Hay/ChdiJ

Stock No: **027432** | B6.YAC128

Congenic, Transgenic

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

PLACE ORDER

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(*HTT*; HD or Hdh) modified in exon 1 to have a glutamine repeat expansion (composed primarily of CAG codons but also containing 9 interspersed CAA codons). Individual transgene copies stably express *HTT* with 100 glutamine repeats or *HTT* with 126 glutamine repeats. These B6.YAC128 mice may be useful for studying Huntington's disease on a defined congenic background (without blindness), as well as for exploring the effect of interrupted CAG tracts versus non-interrupted CAG tracts on somatic instability and RNA structure mechanisms in HD pathophysiology.

Donating Investigator

Michael R Hayden, University of British Columbia

Dr. David Howland, CHDI Foundation

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GENETIC OVERVIEW

Genetic Background **Generation**

Tg(YAC128)53Hay

Allele Type

Transgenic (Inserted expressed sequence, Humanized sequence)

VIEW GENETICS

RESEARCH APPLICATIONS

Neurobiology Research
Research Tools

VIEW ALL RESEARCH APPLICATIO

BASE PRICE

Starting at:

$2,854.50 Domestic price Cryo Recovery

VIEW PRICE LIST

Details

Detailed Description

Stock No. 027432 was formerly associated with CHDI Foundation colony Stock No. 370231 [CHDI-81001013].

Huntington's disease (HD) is an autosomally dominant, fatal neurodegenerative disorder characterized by uncontrolled movements, psychiatric disturbances and cognitive impairment. HD is caused by an unstable trinucleotide (polyglutamine) repeat expansion in the huntingtin gene (*HTT*; HD or Hdh).

YAC128 transgenic mice from founder line 53 express the human huntingtin protein containing a glutamine repeat expansion. Original characterization (on FVB genetic background) reported that founder line 53 integrated the most copies of the transgene and had the highest levels of protein expression (75% of endogenous levels) as determined by densitometric analysis. Additionally, individual transgene copies stably expressed *HTT* with 100 glutamine repeats or *HTT* with 126 glutamine repeats (see more recent data below).

Stock No. 027432: The C57BL/6-congenic YAC128 transgenic mouse line is called B6.YAC128. Hemizygous mice are viable and fertile, with hypoactivity (~8-32 weeks of age), abnormal gait, and motor impairment (rotarod deficit ~4 weeks of age). B6.YAC128 exhibit weight gain (which can confound motor endpoint evaluation) evident in females from ~8 weeks of age and in males from ~16 weeks of age. Overall survival is similar to wildtype (noncarrier) mice up to 1 year of age or longer. The B6.YAC128 mice are not further characterized to date (April 2014). As of 2016 (total N10 or more generations onto C57BL/6), our Stock No. 027432 live colony had shown stable inheritance of two glutamine repeat sizes (~119-121 and ~94-96).

While genetic background may lead to variations in disease severity/progression, these B6.YAC128 mice may exhibit a phenotype similar to that of YAC128 mice from the same founder line on the FVB/N genetic background. Those FVB.YAC128 transgenic mice are described and available as Stock No. 004938. Briefly, FVB.YAC128 mice exhibit a progressive neurological phenotype that mimics many of the pathophysiological features of HD. This includes hyperkinesis, abnormal gait, motor impairment, neuronal cell loss, neurodegeneration and nuclear huntingtin aggregate inclusions in striatal neurons.

Importantly, if a behavioral testing battery includes cognitive tests that require the animals to use visual cues, these B6.YAC128 mice may be preferred over the FVB.YAC128 mice (as FVB/N-congenic background imparts the *Pde6b*^{rd1} mutation causing retinal degeneration and blindness at an early age). In addition, the relatively high aggression levels in FVB/N mice, especially males, may cause problems during experiments that require long-term group-housing. Conversely, mice on the C57BL/6-congenic background may exhibit age-related hearing loss and become deaf to certain frequencies.

This Huntington's disease mouse model is available by way of a collaborative effort between CHDI Foundation, Dr. Michael R. Hayden (University of British Columbia) and The Jackson Laboratory.

Development

Expression Data

Control Suggestions

Selected References

Genetics

Tg(YAC128)53Hay

Disease/Phenotype

Disease Terms

Research Areas By Phenotype

Mammalian Phenotype Terms by Genotype

References

Technical Support

CONTACT TECHNICAL SUPPORT

Genotyping Protocols

Standard PCR:Laragen
Genotyping resources and troubleshooting

Breeding Considerations

When maintaining our live colony, hemizygous mice are bred to C57BL/6J inbred mice (Stock No. 000664).

Additional Breeding and Husbandry Support

Citation

When using the B6.YAC128 mouse strain in a publication, please cite the originating article(s) and include JAX stock #027432 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 Recovery

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

Domestic | **Internatio**

Pricing effective for USA, Canada and Mexico shipping destinations

CRYORECOVERY - DOMESTIC PRICING

SERVICE/PRODUCT	DESCRIPTION	PRICE
Cryo Recovery	Hemizygous or Non carrier for Tg(YAC128)53Hay	$2,854.50

RELATED PRODUCTS AND SERVICES

Frozen Mouse Embryo	B6.FVB-Tg(YAC128)53Hay/ChdiJ	$2595.00

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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.

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LICENSING INFORMATION

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Email: TechTran@jax.org

Related Strains

All

By Allele

By Gene

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