**Overview**

MOLF/EiJ, MOLD/RkJ and MOLG/DnJ were derived from wild mice trapped in Kyushu, Japan. MOLF carries a *Tlr3* variant that results in hypo-responsiveness to poly(I:C) stimulation. Wild-derived mice are genetically distinct from common laboratory mice for a number of complex phenotypic characteristics and are valuable tools for genetic mapping, evolution and systematics research.

**GENETIC OVERVIEW**

<table>
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<th>Genetic Background</th>
<th>Generation</th>
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**RESEARCH APPLICATIONS**

- Research Tools
- Sensorineural Research
- Metabolism Research
- Immunology, Inflammation and Autoimmunity Research
- Mouse/Human Gene Homologs
Important Note
This strain is homozygous for the retinal degeneration allele \( Pde6b^{rd1} \).

**Detailed Description**

MOLF/EiJ, MOLD/RkJ and MOLG/DnJ were derived from wild mice trapped in Kyushu, Japan. Stephan et al. reported that wild-derived strains, MOLF, CZECH (Stock No. 001144) and MSM (Stock No. 003719), exhibit decreased secretion of TNF in response to stimulation by poly(t:C) (a synthetic analog of double-stranded RNA), the result of a P369L substitution in \( Tlr3 \). Response to \( Tlr2 \), \( Tlr4 \) and \( Tlr7 \)-agonists is normal.

A 7 base pair deletion was reported in the \( Cd4 \) 5' untranslated region of MOLF/EiJ (Wade et al. 1993, Capparelli et al. 2004). Subsequent testing at The Jackson Laboratory indicated that MOLC/EiJ, MOLD/EiJ and MOLG/EiJ also carry the variant sequence. The deletion is not believed to affect gene expression.

Wild-derived mice are genetically distinct from common laboratory mice for a number of complex phenotypic characteristics and are valuable tools for genetic mapping, evolution and systematics research.

In 2019-2020, researchers at The Jackson Laboratory discovered this inbred strain contains the \( Trem2^{S148E} \) allele - a naturally occurring variant at position 48351151-48351152 on Chr 17 (rs108080490 and rs107649577; Ensembl GRCm38.p6). This TC to GA transition results in a serine to glutamic acid substitution at amino acid 148 (S148E).

**Development**

**Selected References**

**Genetics**

- **\( A^{MOLF} \)**
- **\( Hc^0 \)**
- **\( Ah^{b-3} \)**
- **\( Pde6b^{rd1} \)**
- **\( Cox7a2^{l} \)**
Genotyping Protocols
Genotyping resources and troubleshooting

Dietary Information
LabDiet® 5K52 formulation (6% fat)

Breeding Considerations
These mice are small and often need to wait until 4 weeks of age to wean.

Additional Breeding and Husbandry Support
Mating System
Sibling x Sibling

Appearance
white-bellied agouti

Related Genotype: \( A^{w}/A^{w} \)

Citation
When using the MOLF/EiJ mouse strain in a publication, please include JAX stock #000550 in your Materials and Methods section.

Animal Health Reports
Facility Barrier Level Descriptions

Available
Live mice available in varying quantities. Ask Customer Service for details.

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<tr>
<th>AGE</th>
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<th>PRICE</th>
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Domestic
International
Pricing effective for USA, Canada and Mexico shipping destinations
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Email: TechTran@jax.org

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**Related Strains**

- All
- By Allele
- By Gene
- By Collection