

# The **NOG** Portfolio

**A Unique Portfolio with Broad Applications Built Upon the Super Immunodeficient CIEA NOG mouse®**

## THE NOG PORTFOLIO OFFERS:

- ▶ Exclusive 2nd generation models
- ▶ Easy access for academics, pharma, biotech, and CROs, including use in academia-industry collaborations and sponsored or contract studies
- ▶ Expert support from Taconic's field application scientists, plus data from collaborations and R&D across a range of therapeutic areas

The NOG mouse is a widely used and versatile mouse which offers many advantages over standard nude and scid strains, particularly for engraftment of challenging cell lines, patient-derived xenografts, and immune system humanization.

The NOG mouse is the base of a flexible platform which includes a variety of 2nd generation models which have specific utility as well as several different types of humanized models.

## THE NOG PORTFOLIO AT A GLANCE

### A Flexible Platform, Exclusive 2nd Generation Models with Specific Utility and Multiple Types of Humanized Models

#### NOG-EXL

- ▶ Studies involving human myeloid cells, including immuno-oncology and allergy applications; host for acute myeloid leukemia (AML) PDX

#### hIL-2 NOG

- ▶ Research involving human T cells, including Graft vs. Host Disease, CAR-T cell efficacy studies, tumor infiltrating lymphocytes (TILs)

#### hIL-6 NOG

- ▶ Studies involving human monocytes and macrophages, including tumor-associated macrophages (TAMs); host for multiple myeloma (MM) PDX

#### hIL-15 NOG

- ▶ Studies involving human NK cells, including immuno-oncology and Graft vs. Host Disease applications

#### B2m-NOG

- ▶ Prolonged study window following engraftment of human PBMCs for immuno-oncology and other efficacy studies

#### APPLICATIONS OF THE NOG PORTFOLIO INCLUDE:

- ▶ Oncology and immuno-oncology
- ▶ Immunology
- ▶ Inflammation and allergy
- ▶ Autoimmune disease
- ▶ GvHD and transplantation
- ▶ Infectious disease
- ▶ Regenerative medicine
- ▶ Safety assessment

## HIGH LEVEL COMPARISON OF IMMUNODEFICIENT MICE

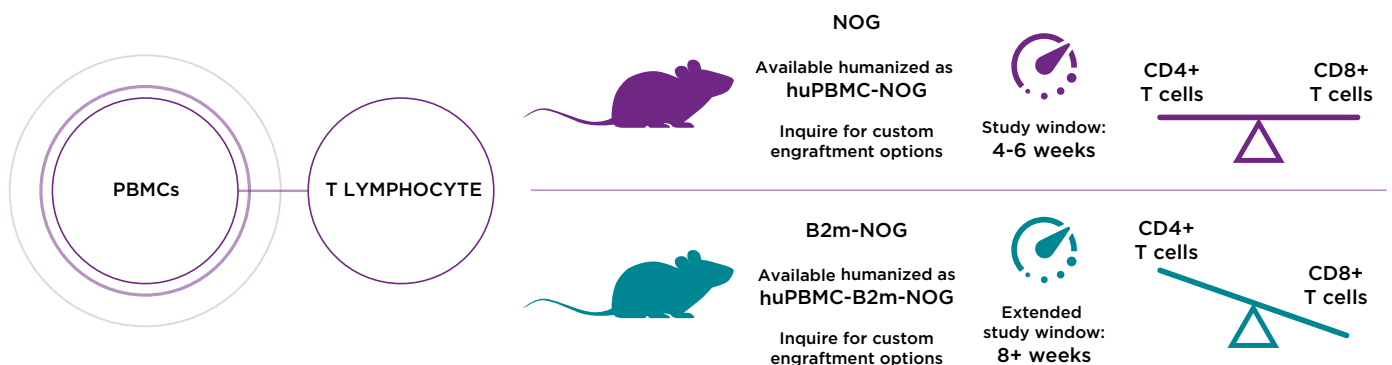
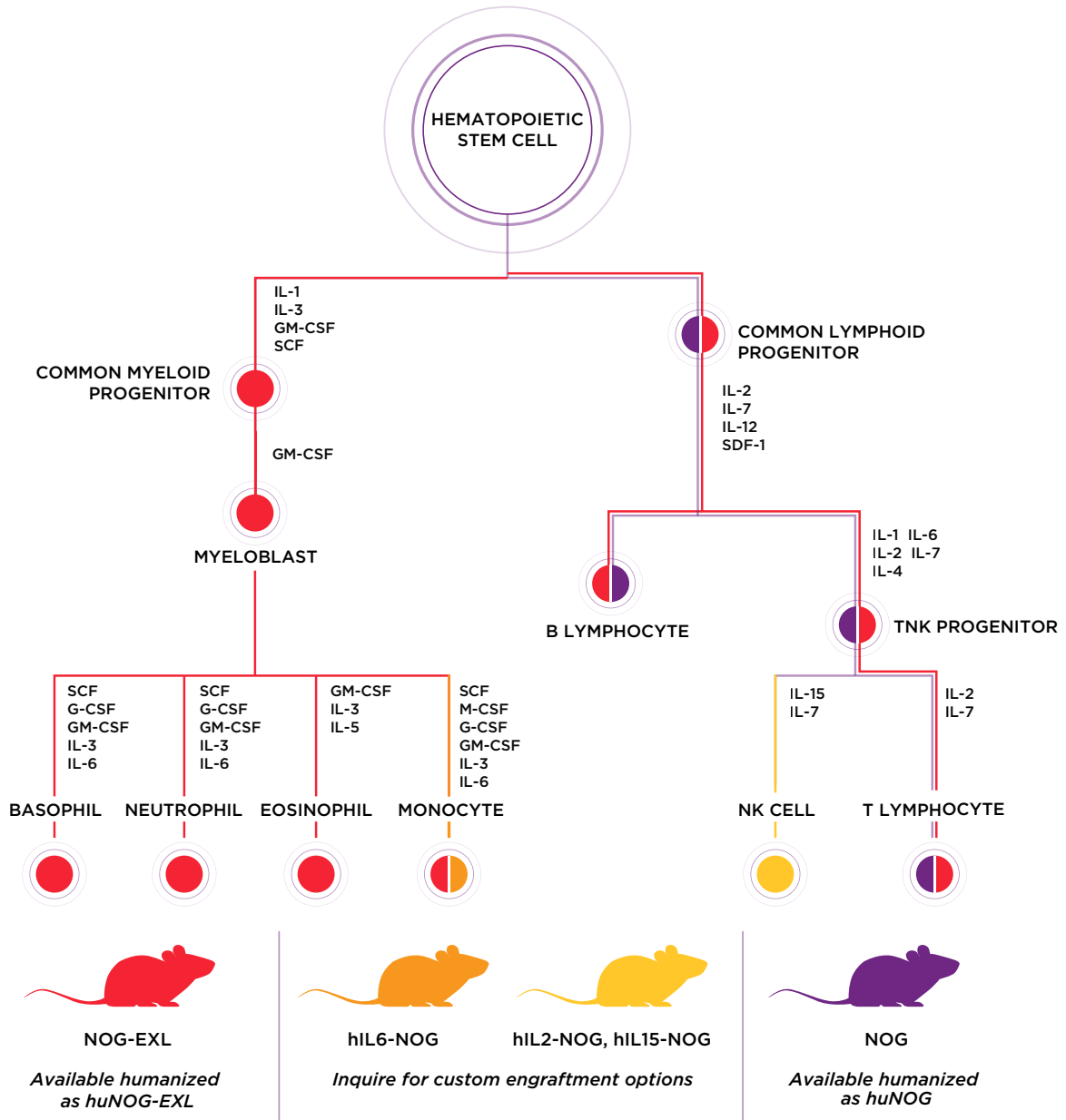
Strain	Immune deficiencies	Other considerations	Key applications
<b>NUDE MICE</b> <i>Foxn1<sup>nu</sup></i> mutation, various inbred and outbred backgrounds	T	<ul style="list-style-type: none"> <li>▶ Hairless</li> <li>▶ Relatively normal radiation sensitivity</li> </ul>	<ul style="list-style-type: none"> <li>▶ Outbred nudes are excellent general purpose xenograft hosts, but are not recommended for difficult-to-engraft cell lines or patient-derived xenografts</li> <li>▶ Appropriate for efficacy studies involving tumor irradiation</li> <li>▶ Inbred nudes may be useful for adoptive transfer studies</li> <li>▶ Cannot be used as hosts for immune system humanization</li> </ul>
<b>SCID MICE</b> <i>Prkdc<sup>scid</sup></i> mutation, various inbred and outbred backgrounds	T B	<ul style="list-style-type: none"> <li>▶ Radiation sensitive</li> <li>▶ Can become "leaky" and develop functional T and B cells, including antibody production</li> </ul>	<ul style="list-style-type: none"> <li>▶ Scid mice are commonly used for xenografts of cell lines which do not grow well in nude mice</li> <li>▶ Not preferred as hosts for current humanization protocols</li> </ul>
<b>NOD SCID MICE*</b> <i>Prkdc<sup>scid</sup></i> mutation on inbred NOD strain background	T B Reduced NK cell activity. Defective dendritic cells and macrophages. Reduced complement activity.	<ul style="list-style-type: none"> <li>▶ Radiation sensitive</li> <li>▶ Can become "leaky" and develop functional T and B cells, including antibody production</li> <li>▶ Significantly shortened lifespan due to development of thymic lymphomas</li> <li>▶ NOD SIRPα allele promotes superior engraftment of human hematopoietic lineages</li> </ul>	<ul style="list-style-type: none"> <li>▶ NOD scid mice are commonly used as xenograft hosts for difficult-to-engraft cell lines and patient-derived xenografts</li> <li>▶ Preferred as a humanization host for certain experiments in which presence of gut-associated lymph tissue (GALT) may be relevant, but does not engraft as efficiently as NOG</li> <li>▶ Not appropriate for longer-term experiments due to limited lifespan</li> </ul>
<b>CIEA NOG mouse®</b> <i>Prkdc<sup>scid</sup></i> mutation and <i>Il2rg</i> knockout on inbred NOD strain background	T B NK Reduced complement activity, dysfunctional macrophages and dendritic cells, deficiencies in immune signaling, including cytokine production.	<ul style="list-style-type: none"> <li>▶ Radiation sensitive</li> <li>▶ Not leaky</li> <li>▶ Normal lifespan with appropriate housing and husbandry</li> <li>▶ NOD SIRPα allele promotes superior engraftment of human hematopoietic lineages</li> <li>▶ More sensitive than less immunodeficient models to opportunistic infections. Requires special housing and husbandry</li> </ul>	<ul style="list-style-type: none"> <li>▶ NOG mice are superior xenograft hosts for difficult-to-engraft cell lines and patient-derived xenografts</li> <li>▶ Superior host for immune system humanization, including engraftment of human PBMCs, HSCs and co-engraftment with human tumors</li> <li>▶ Many 2nd generation NOG models available to support engraftment and differentiation of specific human immune cell types and PDX</li> </ul>

\*not available from Taconic via live production

# HUMANIZED IMMUNE SYSTEM MODELS AVAILABLE FROM TACONIC

**huNOG**  
 ▼  
**HSC-engrafted NOG**  
**HSC-engrafted NOG-EXL**  
 Live inventory available for immediate delivery

**huPBMC-NOG**      **huPBMC-B2m-NOG**  
 ▼                      ▼  
**PBMC-engrafted NOG**    **PBMC-engrafted B2m-NOG**  
 Engrafted upon order for quick delivery



## THE COMPLETE SOLUTION

### MODELS TO DRIVE DRUG DISCOVERY

Taconic Biosciences is uniquely positioned to enable drug discovery through animal models by being the only company that partners with customers to provide expertise, quality, and availability, along with downstream services:

- ▶ Expertise at every step
- ▶ Highest quality standards in the industry
- ▶ Availability and access to drive global research

### MODEL GENERATION SOLUTIONS

Taconic's Model Generation Solutions empower our customers with a unique combination of capabilities, specifically tailored to each individual discovery program:

- ▶ Most experienced model generation and breeding company
- ▶ Most comprehensive toolkit
- ▶ Exclusive programs
- ▶ Concierge approach to partnering with customers

### COLONY MANAGEMENT SOLUTIONS

Taconic's fully-integrated colony management solutions bring innovative models from design to study-ready cohorts with unprecedented speed and transparency:

- ▶ Most experienced model generation and colony management company
- ▶ The complete toolkit
- ▶ Colony management solution process
- ▶ Partnering with our customers
- ▶ Expanded applications and opportunities

## YOUR PARTNER

### WHAT WE DO

Taconic Biosciences is a fully-licensed, global leader in genetically engineered rodent models and services. Founded in 1952, Taconic provides the best animal solutions so that customers can acquire, custom-generate, breed, precondition, test, and distribute valuable research models worldwide.

### WHO WE ARE

Taconic has created a unique ecosystem of experts to provide our customers with the best animal model solutions. Whether it is choosing the right model for your study, designing a custom model, creating an efficient breeding plan, or providing expertise in critical support functions like veterinary science, genetics, and embryology; Taconic is ready to help you drive your research from idea to cure.

### CONTACT US

To get started, contact one of our customer service team members. Contact us at [info@taconic.com](mailto:info@taconic.com).

### VISIT TACONIC.COM

There is so much more to learn. Visit [taconic.com](http://taconic.com) to see our full breadth of animal model solutions and valuable resources.

# Complex Experiments Require Complex Models

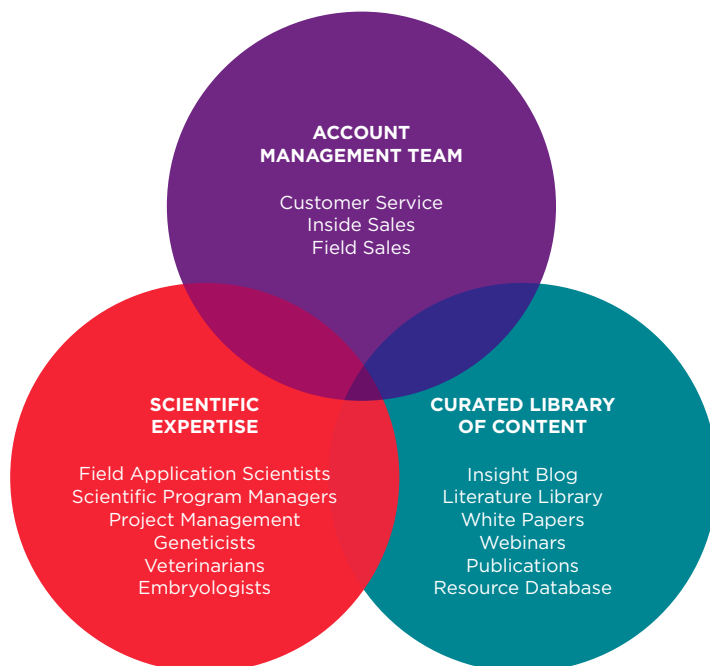
## Let Us Help You Select the Right One

### THE TACONIC DIFFERENCE — LET US PARTNER WITH YOU

- ▶ PhD-level field application scientists provide critical expertise to maximize your success. Let us help you with selection of the most appropriate model and experimental design.
- ▶ Application data available through collaborations with industry and academia covering a wide range of therapeutic areas.
- ▶ Sold under a simple label license for easy access - no MTA or license fee required to access NOG Portfolio. Models available for internal research as well as sponsored and contract research.

## ECOSYSTEM OF SUPPORT

Our cross-functional team aligns to provide an ecosystem of support that empowers customers with the best solution.



Get in touch for more information about our products and services.

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