JAX SEMINARS ANNOUNCEMENT
Predictive Cancer Models Using Patient-derived Xenograft Mice

Humanized NSG®*Mice for Innovative Preclinical Research*
Comparing Immunodeficient Mice for Cancer Immunity and Transplant Research
Grace Berryhill, Ph.D.
Ralph Gareus, Ph.D.
The Jackson Laboratory, Bar Harbor, Maine - USA
23 September 2019
10:00 – 13:00

Monterotondo CNR Seminar Room, Building 21
Adriano Buzzati-Traverso Campus, Via E. Ramarini 32, 00015 Monterotondo, Italy

Organisers
Olga Boruc, EMBL
Marcello Raspa, CNR-IBCN, AISAL
Ralph Gareus, The Jackson Laboratory
Highlights:

Predictive Cancer Models Using Patient-derived Xenograft Mice - Patient-derived xenograft (PDX) cancer models show great promise as preclinical models because they recapitulate the heterogeneity of human cancer in a manner that is easily accessible for the research community. The JAX® PDX program was developed in collaboration with renowned cancer hospitals to advance the course of preclinical drug development. In this seminar, you will:

- *Learn how more than 280 PDX models have been established in partnership with a consortium of cancer hospitals and clinical trial teams*
- *Appreciate how the diversity of the PDX program represents current patient demographics*
- *See how the genetics, pathology, and treatment response of PDX tumors reflect clinical observations*
- *Learn how to search for relevant models and find characterization data using the Mouse Tumor Database*

- *Understand how to obtain PDX models from JAX In Vivo Pharmacology Services*

Humanized NSG® Mice for Innovative Preclinical Research - The NOD *scid* gamma (NSG®) mouse uniquely supports the engraftment of human hematopoietic cells, enabling the creation of "humanized" NSG (Hu-NSGTM) mice. These mice serve as the state-of-the-art platform for studying immunobiology, infectious diseases, graft-versus-host disease, and transplantation. Join this seminar to learn about the superior capabilities of the NSG mouse and the following topics:

- *Key genetic components rendering NSG mice immunodeficient*
- *The superiority of the NSG mouse as a platform for humanization*
- *Advantages and considerations for specific NSG humanization protocols*
- *Data demonstrating preclinical applications of Hu-NSGTM mice*
- *How to obtain Hu-NSG from JAX® In Vivo Pharmacology Services*

Comparing Immunodeficient Mice for Cancer Immunity and Transplant Research - Mouse strains with varying degrees of immunodeficiency are powerful tools for modeling human disease. In this seminar, we will highlight the most widely used immunodeficient models and discuss important considerations for selecting the most appropriate one. Join us to learn about the following topics:

- *The varying degrees of immunodeficiency in common mouse models*
- *Benefits and limitations of nude, scid, and Rag1-null mice*
- *Recent advancements using the most versatile NOD scid gamma (NSG®) strain*
- *Innovations for studying human cancer made possible by the NSG strain*
- *Model considerations for generating "humanized" immune system mice*