1. Record Nr. UNINA9910450973703321

Titolo	Humanized mice [[electronic resource] /] / Tatsuji Nomura, Takeshi Watanabe, Sonoko Habu, editors
Pubbl/distr/stampa	Berlin, : Springer, 2008
ISBN	1-281-24190-3 9786611241902 3-540-75647-7
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (213 p.)
Collana	Current topics in microbiology and immunology, , 0070-217X ; ; 324
Altri autori (Persone)	HabuSonoko NomuraTatsuji <1922-> WatanabeTakeshi <1940->
Disciplina	599.3530724
Soggetti	Mice as laboratory animals Transgenic mice Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Basic Concept of Development and Practical Application of Animal Models for Human Diseases -- Humanized SCID Mouse Models for Biomedical Research -- NOD/Shi-scid IL2r?null (NOG) Mice More Appropriate for Humanized Mouse Models -- Humanizing Bone Marrow in Immune-Deficient Mice -- The Differentiative and Regenerative Properties of Human Hematopoietic Stem/Progenitor cells in NOD-SCID/IL2r?null Mice -- Antigen-Specific Antibody Production of Human B Cells in NOG Mice Reconstituted with the Human Immune System -- Humanized Immune System (HIS) Mice as a Tool to Study Human NK Cell Development -- Human T Cell Development and HIV Infection in Human Hemato-Lymphoid System Mice -- Humanized Mice for Human Retrovirus Infection -- Functional and Phenotypic Characterization of the Humanized BLT Mouse Model -- Novel Metastasis Models of Human Cancer in NOG Mice -- In Vivo Imaging in Humanized Mice.
Sommario/riassunto	The term humanized mouse in this text refers to a mouse in which human tissues and cells have been transplanted and show the same biological function as they do in the human body. That is, the

physiological properties and functions of tra- planted human tissues and cells can be analyzed in the mouse instead of using a living human body. It should therefore be possible to study the pathophysiology and treatment of human diseases in mice with good reproducibility. Thus, the hum- ized mouse can be used as a potent tool in both basic and clinical research in the future. The development of appropriate immunodeficient mice has been indispensable in the creation of the humanized mouse, which has been achieved through many years of efforts by several laboratories. The first stage on the road to the humanized mouse was the report on nude mice by Isaacson and Cattanach in 1962. Thereafter, nude mice were studied in detail by Falanagan and, in 1968, Pantelouris found that these mice have no thymus gland, which suggested that the mice lack transplan- tion immunity against xenografts such as human hematopoietic stem cells. At the Nude Mouse Workshops (organized by Regard, Povlsen, Nomura and colleagues) that were held nine times between 1972 and 1997, the possibility of creating a humanized mouse using nude mice was extensively examined. The results, however, showed that certain human cancers can be engrafted in nude mice, but unfortunately engraftment of normal human tissue was almost impossible.