



NATURAL  
IMMUNO-  
DEFICIENT



RAT  
Mutant

GENETICALLY  
ENGINEERED  
MODELS  
(GEM)

WILD TYPE

NATURAL  
MUTANTS

SDR

Strain name:

SD-*Rag1*<sup>em1</sup>/Rj

Type: Mutant inbred rat, GMO

Origin: JANVIER Labs 2023

Colour and related genotype:

Albino rat



## Presentation of the model

The SDR rat is an immunodeficient model harboring a knockout (KO) of the *Rag1 gene*, encoding for the recombination activating protein 1. The inactivation of the *Rag1 gene*, achieved through Crispr Cas9 technology, hinders the production of functional T and B lymphocytes, resulting in a complete immunodeficiency within the adaptive immune system.

The original Sprague Dawley strain was created by R. W. DAWLEY around 1925 from a male hybrid hooded rat of unknown origin and an albino female (likely WISTAR). The male was then crossed with the offspring of this female for 7 generations.

The SPRAGUE DAWLEY® rat is a non-consanguineous albino rat with an elongated head and a tail longer than its body. This rapidly growing rat is docile and easy to handle.



## Main application and research fields

PHARMACOLOGY

TOXICOLOGY

PRE-CLINICAL STUDIES

ONCOLOGY

IMMUNOTHERAPY

IMMUNOLOGY

HUMANIZATION

HUMAN ORGAN TRANSPLANTATION



## Our added value

- The «JANVIER LABS Genetic Policy», specific programme, guarantees homozygosity of autosomal pairs
- Animals with the SPF or SOPF standards
- A gentling policy for docile and easy-to-handle animals
- Optimal stability conditions of our models during shipments, thanks to our dedicated and internal transport service
- A scientific support with a team of Veterinarians and PhD

JANVIER  
LABS

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