List of next generation immunodeficient mice

NOG-EXL, IL5 (NOG-hGM-CSF/hIL-3, hIL-5 Tg)	
Strain name	NOD.Cg-Prkdc<scid> Il2rg<tm1Sug> Tg(SRa-IL3, SRa-CSF2) Tg(CMV-IL5)/Jic
Strain description	Transgenic NOG mice that systemically express the human IL-3 gene, human GM-CSF gene, and human IL-5 gene. When human hematopoietic stem cells are transferred, eosinophils are significantly differentiated in addition to macrophages and mast cells. It is used as a model for human eosinophil asthma.
Strain development	Human IL-5 cDNA was synthesized from mRNA extracted from hu-CD4+ T cells stimulated with 10 ng/ml PMA (MilliporeSigma) and 1 μg/ml IM (MilliporeSigma) in RPMI1640 medium (Thermo Fisher Scientific) for 4 hours at 37°C in 5% CO2. The cDNA was inserted into the pCMVβ vector (Takara Bio USA Inc.) and linearized by digestion with EcoRI and HindIII restriction enzymes. Linearized fragments were injected into NOD/NOG F1 mouse embryos. Offspring with the transgenes were backcross-mated to NOG mice to introduce the scid and IL-2rγnull genes. Then, IL-5 Tg mice were crossed with NOG-IL-3/GM-CSF Tg mice to generate IL-3/GM-CSF/IL-5–triple Tg mice.
Research application	It is used as a model for human eosinophil asthma.
References	Ito R. et al. (2018) A humanized mouse model to study asthmatic airway inflammation via the human IL-33/IL-13 axis. JCI Insight. Nov 2;3(21):e121580.
URL	https://pubmed.ncbi.nlm.nih.gov/30385714/
Remarks	-