

Resource Summary Report

Generated by [ASWG](#) on Aug 27, 2026

BALB/c-II4ra^{tm1Sz/J}

RRID:IMSR_JAX:003514

Type: Organism

Proper Citation

RRID:IMSR_JAX:003514

Organism Information

URL: <https://www.jax.org/strain/003514>

Proper Citation: RRID:IMSR_JAX:003514

Description: Mus musculus with name BALB/c-II4ra^{tm1Sz/J} from IMSR.

Species: Mus musculus

Notes: gene symbol note: interleukin 4 receptor; alpha; mutant strain: II4ra

Affected Gene: interleukin 4 receptor; alpha

Genomic Alteration: targeted mutation 1; Leonard Shultz

Catalog Number: JAX:003514

Database: JAX Mice and Services

Database Abbreviation: JAX

Availability: live

Organism Name: BALB/c-II4ra^{tm1Sz/J}

Record Creation Time: 20250513T053639+0000

Record Last Update: 20260815T050549+0000

Ratings and Alerts

No rating or validation information has been found for BALB/c-II4ra^{tm1Sz/J}.

No alerts have been found for BALB/c-II4ra^{tm1Sz/J}.

Data and Source Information

Source: [Integrated Animals](#)

Source Database: JAX Mice and Services

Usage and Citation Metrics

We found 26 mentions in open access literature.

Listed below are recent publications. The full list is available at [ASWG](#) .

Cortez VS, et al. (2025) IL-25-induced memory type 2 innate lymphoid cells enforce mucosal immunity. *Cell*.

Young RE, et al. (2025) Disruption of E-cadherin in the airway led to dysplastic stressed cells and asthma-like phenotypes. *Developmental cell*.

Cortez VS, et al. (2025) IL-25-induced memory ILC2s mediate long-term small intestinal adaptation. *bioRxiv : the preprint server for biology*.

Zhou Z, et al. (2024) Type 2 cytokine signaling in macrophages protects from cellular senescence and organismal aging. *Immunity*, 57(3), 513.

Florsheim EB, et al. (2023) Immune sensing of food allergens promotes aversive behaviour. *bioRxiv : the preprint server for biology*.

Nakatsuji T, et al. (2023) Competition between skin antimicrobial peptides and commensal bacteria in type 2 inflammation enables survival of *S. aureus*. *Cell reports*, 42(5), 112494.

Hanuscheck N, et al. (2022) Interleukin-4 receptor signaling modulates neuronal network activity. *The Journal of experimental medicine*, 219(6).

Yang X, et al. (2022) Very-low-density lipoprotein receptor-enhanced lipid metabolism in pancreatic stellate cells promotes pancreatic fibrosis. *Immunity*, 55(7), 1185.

Chen F, et al. (2022) Helminth resistance is mediated by differential activation of recruited monocyte-derived alveolar macrophages and arginine depletion. *Cell reports*, 38(2), 110215.

Kurkjian C, et al. (2021) Bias of the Immune Response to *Pneumocystis murina* Does Not Alter the Ability of Neonatal Mice to Clear the Infection. *Journal of fungi (Basel, Switzerland)*, 7(10).

Duan L, et al. (2021) Follicular dendritic cells restrict interleukin-4 availability in germinal centers and foster memory B cell generation. *Immunity*, 54(10), 2256.

Crouse B, et al. (2020) Mechanisms of interleukin 4 mediated increase in efficacy of vaccines against opioid use disorders. *NPJ vaccines*, 5, 99.

Baba T, et al. (2020) Role of IL-4 in bone marrow driven dysregulated angiogenesis and age-related macular degeneration. *eLife*, 9.

Apaydin DC, et al. (2020) Early-Life Stress Regulates Cardiac Development through an IL-4-Glucocorticoid Signaling Balance. *Cell reports*, 33(7), 108404.

Engler AE, et al. (2020) Airway-Associated Macrophages in Homeostasis and Repair. *Cell reports*, 33(13), 108553.

Yu S, et al. (2020) Paneth Cell-Derived Lysozyme Defines the Composition of Mucolytic Microbiota and the Inflammatory Tone of the Intestine. *Immunity*, 53(2), 398.

Frohberger SJ, et al. (2019) Susceptibility to *L. sigmodontis* infection is highest in animals lacking IL-4R/IL-5 compared to single knockouts of IL-4R, IL-5 or eosinophils. *Parasites & vectors*, 12(1), 248.

Tomlinson JE, et al. (2018) Temporal changes in macrophage phenotype after peripheral nerve injury. *Journal of neuroinflammation*, 15(1), 185.

Massie A, et al. (2018) Mice Lacking Alternatively Activated (M2) Macrophages Show Impairments in Restorative Sleep after Sleep Loss and in Cold Environment. *Scientific reports*, 8(1), 8625.

Chen F, et al. (2018) B Cells Produce the Tissue-Protective Protein RELM γ during Helminth Infection, which Inhibits IL-17 Expression and Limits Emphysema. *Cell reports*, 25(10), 2775.