

Resource Summary Report

Generated by [RRID](#) on Aug 2, 2026

[B6.129S7-Chrna7^{tm1Bay/J}](#)

RRID:IMSR_JAX:003232

Type: Organism

Proper Citation

RRID:IMSR_JAX:003232

Organism Information

URL: <https://www.jax.org/strain/003232>

Proper Citation: RRID:IMSR_JAX:003232

Description: Mus musculus with name B6.129S7-Chrna7^{tm1Bay/J} from IMSR.

Species: Mus musculus

Notes: gene symbol note: cholinergic receptor; nicotinic; alpha polypeptide 7; mutant strain|congenic strain: Chrna7

Affected Gene: cholinergic receptor; nicotinic; alpha polypeptide 7

Genomic Alteration: targeted mutation 1; Baylor College of Medicine

Catalog Number: JAX:003232

Database: JAX Mice and Services

Database Abbreviation: JAX

Availability: live

Organism Name: B6.129S7-Chrna7^{tm1Bay/J}

Record Creation Time: 20250513T053638+0000

Record Last Update: 20260801T050341+0000

Ratings and Alerts

No rating or validation information has been found for B6.129S7-Chrna7^{tm1Bay/J}.

No alerts have been found for B6.129S7-Chrna7^{tm1Bay/J}.

Data and Source Information

Source: [Integrated Animals](#)

Source Database: JAX Mice and Services

Usage and Citation Metrics

We found 33 mentions in open access literature.

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

Miranda K, et al. (2026) Loss of $\alpha 7$ nicotinic acetylcholine receptor exacerbates adrenergic-induced cardiac damage. *American journal of physiology. Cell physiology*.

Zhang Z, et al. (2025) Prenatal electroacupuncture modulates maternal-fetal immune activation via a brain-to-splenic signal. *Cell reports*, 44(11), 116576.

Modares NF, et al. (2025) B cell-derived acetylcholine promotes liver regeneration by regulating Kupffer cell and hepatic CD8⁺ T cell function. *Immunity*, 58(5), 1201.

Heard MA, et al. (2025) Genetic and pharmacological targeting of nicotinic acetylcholine receptor action blocks tumor progression in mouse models of breast cancer. *Journal of immunology (Baltimore, Md. : 1950)*, 214(8), 2098.

Cannata B, et al. (2025) Functional deletion of $\alpha 7$ nicotinic acetylcholine receptor impairs Ca²⁺-dependent glutamatergic synaptic transmission by affecting both presynaptic and postsynaptic protein expression and function. *Frontiers in physiology*, 16, 1662171.

Fritz M, et al. (2024) Nicotinic $\alpha 7$ receptors on cholinergic neurons in the striatum mediate cocaine-reinforcement, but not food reward. *Frontiers in molecular neuroscience*, 17, 1418686.

Andrew PM, et al. (2024) The $\alpha 4$ Nicotinic Acetylcholine Receptor Is Necessary for the Initiation of Organophosphate-Induced Neuronal Hyperexcitability. *Toxics*, 12(4).

Lun J, et al. (2023) Kynurenic acid blunts A1 astrocyte activation against neurodegeneration in HIV-associated neurocognitive disorders. *Journal of neuroinflammation*, 20(1), 87.

Caravaca AS, et al. (2022) Vagus nerve stimulation promotes resolution of inflammation by a mechanism that involves Alox15 and requires the $\alpha 7$ nAChR subunit. *Proceedings of the National Academy of Sciences of the United States of America*, 119(22), e2023285119.

Zhang X, et al. (2022) Mesenchymal stromal cells alleviate acute respiratory distress syndrome through the cholinergic anti-inflammatory pathway. *Signal transduction and targeted therapy*, 7(1), 307.

Fielding C, et al. (2022) Cholinergic signals preserve haematopoietic stem cell quiescence during regenerative haematopoiesis. *Nature communications*, 13(1), 543.

Hammarlund ME, et al. (2022) The Alpha 7 Nicotinic Acetylcholine Receptor Does Not Affect Neonatal Brain Injury. *Biomedicines*, 10(8).

Zhong C, et al. (2022) Axonal $\alpha 7$ nicotinic acetylcholine receptors modulate glutamatergic signaling and synaptic vesicle organization in ventral hippocampal projections. *Frontiers in neural circuits*, 16, 978837.

Gong Z, et al. (2022) Alpha7 Nicotinic Acetylcholine Receptor Antagonists Prevent Meningitic *Escherichia coli*-Induced Blood-Brain Barrier Disruptions by Targeting the CISH/JAK2/STAT5b Axis. *Biomedicines*, 10(10).

Hoogland ICM, et al. (2022) Microglial cell response in $\alpha 7$ nicotinic acetylcholine receptor-deficient mice after systemic infection with *Escherichia coli*. *Journal of neuroinflammation*, 19(1), 94.

He X, et al. (2021) Endogenous $\alpha 7$ nAChR Agonist SLURP1 Facilitates *Escherichia coli* K1 Crossing the Blood-Brain Barrier. *Frontiers in immunology*, 12, 745854.

Xu ZQ, et al. (2021) Autophagy is Involved in Neuroprotective Effect of Alpha7 Nicotinic Acetylcholine Receptor on Ischemic Stroke. *Frontiers in pharmacology*, 12, 676589.

Tropea MR, et al. (2021) Genetic deletion of $\alpha 7$ nicotinic acetylcholine receptors induces an age-dependent Alzheimer's disease-like pathology. *Progress in neurobiology*, 206, 102154.

Chen X, et al. (2020) Vagal $\alpha 7$ nAChR signaling regulates $\alpha 7$ nAChR+Sca1+ cells during lung injury repair. *Stem cell research & therapy*, 11(1), 375.

Chen X, et al. (2020) Vagal- $\alpha 7$ nAChR signaling promotes lung stem cells regeneration via fibroblast growth factor 10 during lung injury repair. *Stem cell research & therapy*, 11(1), 230.