

Resource Summary Report

Generated by [NIF](#) on Aug 19, 2026

HotHsd:SD

RRID:RGD_5508397

Type: Organism

Proper Citation

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Organism Information

URL: <https://rgd.mcw.edu/rgdweb/report/strain/main.html?id=5508397>

Proper Citation: RRID:RGD_5508397

Description: Rattus norvegicus with name HotHsd:SD from RGD.

Species: Rattus norvegicus

Notes: Originally developed by the Holtzman Company in Madison, Wisconsin, from Sprague Dawley stock in 1947; to Harlan through acquisition in 1986. [Envigo](#)

Catalog Number: 5508397

Background: outbred

Database: Rat Genome Database (RGD)

Database Abbreviation: RGD

Availability: Unknown

Alternate IDs: 5508397

Organism Name: HotHsd:SD

Record Creation Time: 20230509T191942+0000

Record Last Update: 20260815T190703+0000

Ratings and Alerts

No rating or validation information has been found for HotHsd:SD.

No alerts have been found for HotHsd:SD.

Data and Source Information

Source: [Integrated Animals](#)

Source Database: Rat Genome Database (RGD)

Usage and Citation Metrics

We found 59 mentions in open access literature.

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

Wang Z, et al. (2026) Lactate-mediated Ran lactylation at lysine 123 promotes astrocytes polarization after oxygen-glucose deprivation/reoxygenation. *International immunopharmacology*, 168(Pt 2), 115861.

Hsiao NJ, et al. (2025) Low-Intensity Pulsed Ultrasound Attenuates Neuroinflammation and Preserves Synaptic Integrity by Modulating Microglial Polarization Through the MAPK-NF- κ B Pathway After Traumatic Brain Injury. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 39(23), e71246.

Polishchuk A, et al. (2024) BDNF/TrkB signalling, in cooperation with muscarinic signalling, retrogradely regulates PKA pathway to phosphorylate SNAP-25 and Synapsin-1 at the neuromuscular junction. *Cell communication and signaling : CCS*, 22(1), 371.

Hall AM, et al. (2024) Inhibition of Neuron-Restrictive Silencing Factor (REST/NRSF) Chromatin Binding Attenuates Epileptogenesis. *eNeuro*, 11(5).

Lv J, et al. (2024) S100A9 Induces Macrophage M2 Polarization and Immunomodulatory Role in the Lesion Site After Spinal Cord Injury in Rats. *Molecular neurobiology*.

Polishchuk A, et al. (2023) Synaptic retrograde regulation of the PKA-induced SNAP-25 and Synapsin-1 phosphorylation. *Cellular & molecular biology letters*, 28(1), 17.

Sandouka S, et al. (2023) Nrf2 is expressed more extensively in neurons than in astrocytes following an acute epileptic seizure in rats. *Journal of neurochemistry*, 165(4), 550.

Hamilton K, et al. (2023) Leptin prevents aberrant targeting of tau to hippocampal synapses via PI 3 kinase driven inhibition of GSK3 β . *Journal of neurochemistry*, 167(4), 520.

Just-Borràs L, et al. (2022) TrkB signaling is correlated with muscular fatigue resistance and less vulnerability to neurodegeneration. *Frontiers in molecular neuroscience*, 15, 1069940.

Zhang H, et al. (2022) Signaling pathways involved in NMDA-induced suppression of M-channels in corticotropin-releasing hormone neurons in central amygdala. *Journal of neurochemistry*, 161(6), 478.

de Almeida-Filho DG, et al. (2021) Hippocampus-retrosplenial cortex interaction is increased during phasic REM and contributes to memory consolidation. *Scientific reports*, 11(1), 13078.

Mitchell DR, et al. (2021) More Challenging Diets Sustain Feeding Performance: Applications Toward the Captive Rearing of Wildlife. *Integrative organismal biology* (Oxford, England), 3(1), obab030.

Clements L, et al. (2020) Activation of oestrogen receptor α induces a novel form of LTP at hippocampal temporoammonic-CA1 synapses. *British journal of pharmacology*, 177(3), 642.

Cilleros-Mañé V, et al. (2020) The M2 muscarinic receptor, in association to M1, regulates the neuromuscular PKA molecular dynamics. *FASEB journal : official publication of the Federation of American Societies for Experimental Biology*, 34(4), 4934.

Park SY, et al. (2020) Novel luciferase-opsin combinations for improved luminopsins. *Journal of neuroscience research*, 98(3), 410.

Prakash M, et al. (2020) Defining parameters of specificity for bioluminescent optogenetic activation of neurons using in vitro multi electrode arrays (MEA). *Journal of neuroscience research*, 98(3), 437.

Hone AJ, et al. (2020) Expression of $\alpha 4 \beta 2$ nicotinic acetylcholine receptors by rat adrenal chromaffin cells determined using novel conopeptide antagonists. *Journal of neurochemistry*, 154(2), 158.

Huang Y, et al. (2019) Endogenous transient receptor potential ankyrin 1 and vanilloid 1 activity potentiates glutamatergic input to spinal lamina I neurons in inflammatory pain. *Journal of neurochemistry*, 149(3), 381.

Deng M, et al. (2019) Mitogen-activated protein kinase signaling mediates opioid-induced presynaptic NMDA receptor activation and analgesic tolerance. *Journal of neurochemistry*, 148(2), 275.

Stephens KE, et al. (2019) Sex differences in gene regulation in the dorsal root ganglion after nerve injury. *BMC genomics*, 20(1), 147.