Resource Summary Report

Generated by ASWG on Jul 30, 2026

SHR

RRID:RGD_61000
Type: Organism

Proper Citation

RRID:RGD_61000

Organism Information

URL: https://rgd.mcw.edu/rgdweb/report/strain/main.html?id=61000

Proper Citation: RRID:RGD_61000

Description: Rattus norvegicus with name SHR from RGD.

Species: Rattus norvegicus

Notes: Okamoto 1963 from outbred Wistar Kyoto rats. Bred from a male with mild hypertension, mated with a female with high blood pressure. Brother x sister mating with continued selection for high blood pressure (Okamoto 1969, Okamoto et al 1972). A number of sublines have been developed with a tendency to develop cardiovascular lesions and stroke (see particularly SHRSP) (Nagaoka et al 1976), and hypercholesterolemia (Yamori 1984). For a recent review see Yamori, (1994). However, there is no evidence for substrain differentiation among SHR stocks from the major commercial suppliers in the USA both respect to phenotype and DNA fingerprints (Blizard et al, 1991). Strain WKY, developed from the same base populations is sometimes used as a normotensive control, though its use as such must be questioned as it differs at many genetic marker loci (Festing and Bender 1984, and see also strain WKY). Stelzin et al (1992) found that SHR and WKY shared only 50% of their DNA fingerprint bands, whereas SS and SR shared about 80% of bands. Most authorities suggest that WKY alone is not a good control strain, and that for most comparative studies several normotensive strains should be used. There is an extensive literature on the characteristics of SHR. DeJong (1984) provides a useful comparative review of this and other hypertensive strains, and there are regular symposia on hypertensive rat strains (see J. Hypertension 4(suppl):S1-S541, 1986, and Jpn. Heart J. 28:567-648).

Catalog Number: 61000

Background: inbred

Database: Rat Genome Database (RGD)

Database Abbreviation: RGD

Availability: Unknown

Alternate IDs: 61000

Organism Name: SHR

Record Creation Time: 20230509T191926+0000

Record Last Update: 20260725T194227+0000

Ratings and Alerts

No rating or validation information has been found for SHR.

No alerts have been found for SHR.

Data and Source Information

Source: Integrated Animals

Source Database: Rat Genome Database (RGD)

Usage and Citation Metrics

We found 7 mentions in open access literature.

Listed below are recent publications. The full list is available at ASWG .

Mauer Sutovska H, et al. (2025) Dark-phase melatonin administration does not reduce blood pressure but induces changes in parameters related to the control of the cardiovascular system in spontaneously hypertensive rats. Hypertension research : official journal of the Japanese Society of Hypertension, 48(8), 2218.

Longarzo ML, et al. (2024) Understanding the effects of omega-3 fatty acid supplementation on the physical properties of brain lipid membranes. iScience, 27(7), 110362.

Ronchetti S, et al. (2023) Beneficial effects of the phytoestrogen genistein on hippocampal impairments of spontaneously hypertensive rats (SHR). Journal of neuroendocrinology, 35(1), e13228.

Zhou JJ, et al. (2022) ??-1 protein promotes synaptic expression of Ca2+ permeable-AMPA receptors by inhibiting GluA1/GluA2 heteromeric assembly in the hypothalamus in hypertension. Journal of neurochemistry, 161(1), 40.

Zhang X, et al. (2021) Inhibition of HSP90 S-nitrosylation alleviates cardiac fibrosis via TGF?/SMAD3 signalling pathway. British journal of pharmacology, 178(23), 4608.

Wu H, et al. (2020) A bivalent antihypertensive vaccine targeting L-type calcium channels and angiotensin AT1 receptors. British journal of pharmacology, 177(2), 402.

Schwiebs A, et al. (2020) The virtually mature B-type natriuretic peptide (BNP1-32) is a precursor for the more effective BNP1-30. British journal of pharmacology, 177(6), 1424.