Resource Summary Report

Generated by RRID on Jul 29, 2026

SH-SY5Y

RRID:CVCL_0019
Type: Cell Line

Proper Citation

RRID:CVCL_0019

Cell Line Information

URL: https://web.expasy.org/cellosaurus/CVCL_0019

Proper Citation: RRID:CVCL_0019

Description: Cell line SH-SY5Y is a Cancer cell line with a species of origin Homo sapiens (Human)

Sex: Female

Disease: Neuroblastoma

Defining Citation: PMID:1354203, PMID:2535691, PMID:2846152, PMID:3968181, PMID:4748425, PMID:6137586, PMID:7687927, PMID:10630978, PMID:11668190, PMID:12505268, PMID:14676279, PMID:15150091, PMID:15720811, PMID:16120276, PMID:16822308, PMID:16957166, PMID:17506115, PMID:18957096, PMID:20655465, PMID:22213050, PMID:22460905, PMID:23421552, PMID:24466371, PMID:25182563, PMID:25730103, PMID:25884760, PMID:26342562, PMID:26972028, PMID:27141528, PMID:28118852, PMID:28350380, PMID:28601559, PMID:29468137, PMID:30894373, PMID:31068700, PMID:35893584

Comments: Virology: Low susceptibility to infection by Zika virus (ZIKV) (PubMed=29468137)., Characteristics: Particularly suitable for research in neurodegenerative diseases due to the fact that it has a specific uptake of norepinephrine (NA), expresses bona fide neurofilament proteins, and shows activity of enzymes involved in catecholaminergic systems (tyrosine and dopamine-beta-hydroxylases) (PubMed=35893584)., Characteristics: There seem to be differences in the retinoic acid (RA)-induced neuronal phenotype of SH-SY5Y cells from ATCC and ECACC. After 5 days of RA treatment, ECACC cells are slightly larger in size and contains significant amount of neuroblastic (N-type) cells and a small fraction of epithelial (S-type) cells (PubMed=18957096)., Characteristics: Neuroblastic type (N-type) (PubMed=15720811)., Population: Caucasian., From: Memorial Sloan Kettering Cancer Center; New York; USA., Part of: Human Protein Atlas, Cell Atlas panel., Part of: ENCODE project common cell types; tier 3., Part of: Cancer Dependency Map project (DepMap) (includes Cancer Cell

Line Encyclopedia - CCLE)., Problematic cell line: Partially contaminated. Some laboratories that are redistributing this cell line are in fact redistributing a contaminated cell line of mouse origin (PubMed=25182563)..

Category: Cancer cell line

Organism: Homo sapiens (Human)

Name: SH-SY5Y

Synonyms: SH-Sy5y, SHSY5Y, SHSY-5Y, SK-SH-SY5Y, SY5Y, SH-SY5Y Parental

Cross References: BTO:BTO_0000793, CLO:CLO_0009015, EFO:EFO_0002717, MCCL:MCC:0000421, CLDB:cl4287, CLDB:cl4288, CLDB:cl4289, CLDB:cl4290, Abcam:ab275475, AddexBio:C0005004/63, ATCC:CRL-2266, BCRJ:0223, BioGRID_ORCS_Cell_line:1228, BioSample:SAMN10987717, cancercelllines:CVCL_0019, CancerTools:161932, CCRID:1101HUM-PUMC000026, CCRID:3101HUMSCSP5014, CCRID:3101HUMTCHu97, CCRID:4201HUM-CCTCC00210, CCRID:4201PAT-CCTCC00086, CCRID:5301HUM-KCB06107YJ, CCTCC:GDC0210, Cell_Model_Passport:SIDM01236, CGH-DB:63-1, ChEMBL-Cells:CHEMBL3307740, ChEMBL-Targets:CHEMBL614910, CLS:300154, Cosmic:688084, Cosmic:1019933, Cosmic:1167410, Cosmic:1212536, Cosmic:2058109, Cosmic:2239470, Cosmic:2393641, DepMap:ACH-001188, DSMZ:ACC-209, DSMZCellDive:ACC-209, ECACC:94030304, ENCODE:ENCBS264AAA, GEO:GSM231608, GEO:GSM231609, GEO:GSM231610, GEO:GSM231611, GEO:GSM231612, GEO:GSM231613, GEO:GSM231614, GEO:GSM231615, GEO:GSM231616, GEO:GSM231617, GEO:GSM231618, GEO:GSM231619, GEO:GSM231620, GEO:GSM231621, GEO:GSM231622, GEO:GSM231623, GEO:GSM231624, GEO:GSM231625, GEO:GSM231626, GEO:GSM231627, GEO:GSM231628, GEO:GSM231629, GEO:GSM231630, GEO:GSM231631, GEO:GSM231632, GEO:GSM231633, GEO:GSM231634, GEO:GSM231635, GEO:GSM231636, GEO:GSM231637, GEO:GSM231638, GEO:GSM231639, GEO:GSM231640, GEO:GSM231641, GEO:GSM231642, GEO:GSM231643, GEO:GSM231644, GEO:GSM231645, GEO:GSM231646, GEO:GSM231647, GEO:GSM231648, GEO:GSM231649, GEO:GSM231650, GEO:GSM231651, GEO:GSM231652, GEO:GSM231653, GEO:GSM231654, GEO:GSM231655, GEO:GSM231656, GEO:GSM231657, GEO:GSM231658, GEO:GSM231659, GEO:GSM231660, GEO:GSM231661, GEO:GSM231662, GEO:GSM231663, GEO:GSM231664, GEO:GSM231665, GEO:GSM231666, GEO:GSM231667, GEO:GSM231668, GEO:GSM231669, GEO:GSM231670, GEO:GSM231671, GEO:GSM231672, GEO:GSM231673, GEO:GSM692874, GEO:GSM887570, GEO:GSM888653, GEO:GSM1622294, GEO:GSM2371253, GEO:GSM2394368, GEO:GSM7701455, GEO:GSM7701459, Hysigen:TCH-C325, IARC_TP53:23599, ICLC:HTL95013, IZSLER:BS TCL 232, KCB:KCB 2006107YJ, KCLB:22266, Kerafast:ECP004, LINCS_LDP:LCL-2000, Lonza:132, MetaboLights:MTBLS455, NCBI_Iran:C611, PharmacoDB:SHSY5Y_1374_2019, PRIDE:PXD003105, PRIDE:PXD003914, PRIDE:PXD004452, PRIDE:PXD010005, PRIDE:PXD010027, PRIDE:PXD010776, PRIDE:PXD014381, PRIDE:PXD020389, PRIDE:PXD029012, Progenetix:CVCL_0019, PubChem_Cell_line:CVCL_0019, TOKU-E:3118, Ubigene:YC-D014, Wikidata:Q7390126

ID: CVCL_0019

Hierarchy: cvcl_0531

Record Creation Time: 20220427T221540+0000

Record Last Update: 20260726T000135+0000

Ratings and Alerts

No rating or validation information has been found for SH-SY5Y.

Warning: Problematic cell line: Partially contaminated. Some laboratories that are redistributing this cell line are in fact redistributing a contaminated cell line of mouse origin (PubMed=25182563).

Registration: Memorial Sloan Kettering Cancer Center Office of Technology Development; SK 810.
Virology: Low susceptibility to infection by Zika virus (ZIKV) (PubMed=29468137)., Characteristics: Particularly suitable for research in neurodegenerative diseases due to the fact that it has a specific uptake of norepinephrine (NA), expresses bona fide neurofilament proteins, and shows activity of enzymes involved in catecholaminergic systems (tyrosine and dopamine-beta-hydroxylases) (PubMed=35893584)., Characteristics: There seem to be differences in the retinoic acid (RA)-induced neuronal phenotype of SH-SY5Y cells from ATCC and ECACC. After 5 days of RA treatment, ECACC cells are slightly larger in size and contains significant amount of neuroblastic (N-type) cells and a small fraction of epithelial (S-type) cells (PubMed=18957096)., Characteristics: Neuroblastic type (N-type) (PubMed=15720811)., Population: Caucasian., From: Memorial Sloan Kettering Cancer Center; New York; USA., Part of: Human Protein Atlas, Cell Atlas panel., Part of: ENCODE project common cell types; tier 3., Part of: Cancer Dependency Map project (DepMap) (includes Cancer Cell Line Encyclopedia - CCLE)., Problematic cell line: Partially contaminated. Some laboratories that are redistributing this cell line are in fact redistributing a contaminated cell line of mouse origin (PubMed=25182563)..

Data and Source Information

Source: Cellosaurus

Usage and Citation Metrics

We found 7873 mentions in open access literature.

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

Wang W, et al. (2026) The rs713586 risk variant dysregulates ADCY3 rather than DNAJC27, leading to obesity through ZFP42-TET1-mediated DNA methylation. EBioMedicine, 123, 106112.

Nguyen N, et al. (2026) Transcranial microtesla magnetic fields suppress neuroinflammation and neuronal oxidative stress burden. iScience, 29(1), 114425.

Manna S, et al. (2026) KIF5A upregulation by FAK-mediated downregulation of epigenetic modifiers promotes mitochondrial dynamics in neuronal differentiation. FEBS letters, 600(1), 63.

Mao Y, et al. (2026) AMPK?2 signals amino acid insufficiency to inhibit protein synthesis. Cell metabolism, 38(1), 192.

Hosogane M, et al. (2026) Variant-specific interaction of kinectin 1 with the multi-tRNA synthetase complex regulates ER sheet organization. iScience, 29(1), 114303.

Koide S, et al. (2026) Quantifying subpercent nuclear TDP-43 loss in cells and ALS cortex using junction-specific cryptic exon RT-qPCR. FEBS letters, 600(1), 119.

Wynne M, et al. (2026) Suppressive Genetic Interactions Between Haploinsufficient Mitochondrial Genes Encoded in the 22q11.2 Microdeletion Locus Define Brain and Cardiac Phenotypes. bioRxiv : the preprint server for biology.

Zhao Y, et al. (2025) Comparative proteomic analysis of plasma exosomes reveals the functional contribution of N-acetyl-alpha-glucosaminidase to Parkinson's disease. Neural regeneration research, 20(10), 2998.

Murra N, et al. (2025) Regulation and Function of CCL2 and N-Myc in Retinoic Acid-treated Neuroblastoma Cells. Cancer genomics & proteomics, 22(1), 90.

Azfar M, et al. (2025) The polyamine transporter ATP13A3 mediates difluoromethylornithine-induced polyamine uptake in neuroblastoma. Molecular oncology, 19(3), 913.

Rezaei Somee L, et al. (2025) Structural and functional consequences of the cardiomyopathy-associated p.R157C mutation in the C-terminal palindromic motif of human ?B-crystallin. FEBS letters, 599(13), 1889.

Li Z, et al. (2025) Salidroside attenuates the acquisition of morphine-induced conditioned place preference in mice via improving neurosynaptic plasticity in the ventral tegmental area. British journal of pharmacology, 182(19), 4553.

Gerardo H, et al. (2025) Extracellular matrix mechanical cues (dys)regulate metabolic redox homeostasis due to impaired autophagic flux. European journal of clinical investigation, 55(9), e70051.

Kusakari S, et al. (2025) Excessive expression of progranulin leads to neurotoxicity rather than neuroprotection. Neurobiology of disease, 209, 106895.

Scialò C, et al. (2025) Seeded aggregation of TDP-43 induces its loss of function and reveals early pathological signatures. Neuron, 113(10), 1614.

Martín-Ávila A, et al. (2025) Clearing truncated tau protein restores neuronal function and prevents microglia activation in tauopathy mice. Cell reports, 44(10), 116291.

Vineall KG, et al. (2025) Visualizing PINK1 Activity Dynamics in Single Cells with a Phase Separation-Based Kinase Activity Reporter. bioRxiv : the preprint server for biology.

Palanivel V, et al. (2025) Selective Receptor Modulation by Truncated Neuropeptide Y (3-36) Dissociates Vasoconstriction from Neuroprotection in Experimental Glaucoma. Molecular neurobiology, 63(1), 334.

Fu X, et al. (2025) FOXP1 is a Transcription Factor for the Alzheimer's Disease Risk Gene SORL1. Journal of neurochemistry, 169(2), e70011.

S G, et al. (2025) Zerumbone-mediated post-ischemic neuroprotection: Reduction of ferroptosis through TFR1 downregulation in vitro. Molecular biology reports, 52(1), 201.