

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, cancercellines: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, PharmacDB: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, Ubigen: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).,

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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 γ 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 γ 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.

Stykel MG, et al. (2025) G6PD deficiency triggers dopamine loss and the initiation of Parkinson's disease pathogenesis. *Cell reports*, 44(1), 115178.

Nawa Y, et al. (2025) cAMP-Response Element (CRE)-Mediated Transcription by CRE-Binding Protein (CREB) Is Essential for Human Tryptophan Hydroxylase 2 Gene Expression. *Journal of neurochemistry*, 169(6), e70138.