Resource Summary Report

Generated by FDI Lab - SciCrunch.org on Apr 15, 2025

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)

Sex: Female

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: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

Comments: Omics: Transcriptome analysis by RNAseq., Omics: Transcriptome analysis by microarray., Omics: SNP array analysis., Omics: N-glycan profiling., Omics: Mitochondrial proteome analysis by 2D-DE/MS., Omics: GPI-anchored proteins analysis by proteomics., Omics: Deep tyrosine phosphoproteome analysis., Omics: Deep proteome analysis., Omics: Deep exome analysis., Omics: Deep antibody staining analysis., Virology: Low susceptibility to infection by Zika virus (ZIKV) (PubMed=29468137)., 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: 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

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:4201PAT-CCTCC00086, CCRID:4201HUM-CCTCC00210, 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, 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

Record Creation Time: 20250131T202616+0000

Record Last Update: 20250131T204538+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.
Omics: Transcriptome analysis by RNAseq., Omics: Transcriptome analysis by microarray., Omics: SNP array analysis., Omics: N-glycan profiling., Omics: Mitochondrial proteome analysis by 2D-DE/MS., Omics: GPI-anchored proteins analysis by proteomics., Omics: Deep tyrosine phosphoproteome analysis., Omics: Deep proteome analysis., Omics: Deep exome analysis., Omics: Deep antibody staining analysis., Virology: Low susceptibility to infection by Zika virus (ZIKV) (PubMed=29468137)., 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: 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 7777 mentions in open access literature.

Listed below are recent publications. The full list is available at FDI Lab - SciCrunch.org.

Long Z, et al. (2025) Enhanced autophagic clearance of amyloid-? via histone deacetylase 6-mediated V-ATPase assembly and lysosomal acidification protects against Alzheimer's disease in vitro and in vivo. Neural regeneration research, 20(9), 2633.

Carregari VC, et al. (2024) Diving into the proteomic atlas of SARS-CoV-2 infected cells. Scientific reports, 14(1), 7375.

Tassinari ID, et al. (2024) Lactate Protects Microglia and Neurons from Oxygen-Glucose Deprivation/Reoxygenation. Neurochemical research, 49(7), 1762.

Ahmed MR, et al. (2024) Arrestin-3-assisted activation of JNK3 mediates dopaminergic behavioral sensitization. Cell reports. Medicine, 5(7), 101623.

Liu Y, et al. (2024) Translocational attenuation mediated by the PERK-SRP14 axis is a protective mechanism of unfolded protein response. Cell reports, 43(7), 114402.

Lian B, et al. (2024) SIRT1 improves lactate homeostasis in the brain to alleviate parkinsonism via deacetylation and inhibition of PKM2. Cell reports. Medicine, 5(8), 101684.

Kaufman ME, et al. (2024) Characterizing Relationships between T-cell Inflammation and Outcomes in Patients with High-Risk Neuroblastoma According to Mesenchymal and Adrenergic Signatures. Cancer research communications, 4(8), 2255.

Panmanee J, et al. (2024) A Complex Interplay Between Melatonin and ROR?: ROR? is Unlikely a Putative Receptor for Melatonin as Revealed by Biophysical Assays. Molecular neurobiology.

Shen T, et al. (2024) TREM-1 mediates interaction between substantia nigra microglia and peripheral neutrophils. Neural regeneration research, 19(6), 1375.

Unti MJ, et al. (2024) Highly efficient cellular expression of circular mRNA enables prolonged protein expression. Cell chemical biology, 31(1), 163.

Goyani S, et al. (2024) Enhanced translocation of TRIM32 to mitochondria sensitizes dopaminergic neuronal cells to apoptosis during stress conditions in Parkinson's disease. The FEBS journal.

Li J, et al. (2024) Cullin-RING ligases employ geometrically optimized catalytic partners for substrate targeting. Molecular cell.

Mengzhen Z, et al. (2024) Integrated machine learning-driven disulfidptosis profiling: CYFIP1 and EMILIN1 as therapeutic nodes in neuroblastoma. Journal of cancer research and clinical oncology, 150(3), 109.

Lane AR, et al. (2024) Adaptive protein synthesis in genetic models of copper deficiency and childhood neurodegeneration. bioRxiv : the preprint server for biology.

Mi Y, et al. (2024) A rare genetic variant in APEX1 is associated with familial amyotrophic lateral sclerosis with slow progression. Acta neurologica Belgica.

Wang Z, et al. (2024) Phenotypic targeting using magnetic nanoparticles for rapid characterization of cellular proliferation regulators. Science advances, 10(19), eadj1468.

Yu J, et al. (2024) A mechanism linking ferroptosis and ferritinophagy in melatonin-related improvement of diabetic brain injury. iScience, 27(4), 109511.

Guzman-Vallejos MS, et al. (2024) Molecular Docking Analysis at the Human ?7-nAChR and Proliferative and Evoked-Calcium Changes in SH-SY5Y Cells by Imidacloprid and Acetamiprid Insecticides. Neurotoxicity research, 42(2), 16.

McCormick CA, et al. (2024) Multicellular, IVT-derived, unmodified human transcriptome for nanopore-direct RNA analysis. GigaByte (Hong Kong, China), 2024, gigabyte129.

Anitei M, et al. (2024) IER3IP1-mutations cause microcephaly by selective inhibition of ER-Golgi transport. Cellular and molecular life sciences : CMLS, 81(1), 334.