

[illegible]

Reference: Carandini, M., Charting the Structure of Neuroscience. *Neuron*, 2019. 102(4): p. 732-734.

Neuroscience

Introduction

Neuroscience is the most fascinating discipline that attempts to understand the nervous system and to develop potential therapies. There are so many branches of neuroscience, among which development, neural signaling, neurodegenerative disorders, sensory/motor system, integrative neuroscience, motivation and emotion, cognition and techniques are mentioned with high frequencies.

In this handbook, neurotransmitters and their receptors, neuronal stem cells, neurodegenerative diseases, blood-brain barrier will be discussed.

Contents

Neurotransmitters and Neurotransmitter Receptors	2
Neural Stem Cells	7
Neurodegenerative Diseases	10
Blood Brain Barrier	14

Neurotransmitters and Neurotransmitter Receptors

Neurotransmitters are the small molecules of chemical substances that carry information between neurons. There are several types of neurotransmitters according to chemical properties, including monoamines and acetylcholine, amino acids, purines, lipids and peptides.

Neurotransmitters induce postsynaptic electrical potentials and biochemical changes through their receptors. The most familiar neurotransmitter receptors are ligand-gated channels and G protein-coupled receptors (GPCRs) (Figure 1). When a ligand (neurotransmitter) binds to the extracellular domain, the ligand-gated channels will open a central pore that permits ions to pass while GPCRs will transmit the signal to activate G proteins and then amplify the signaling cascades through second messengers.

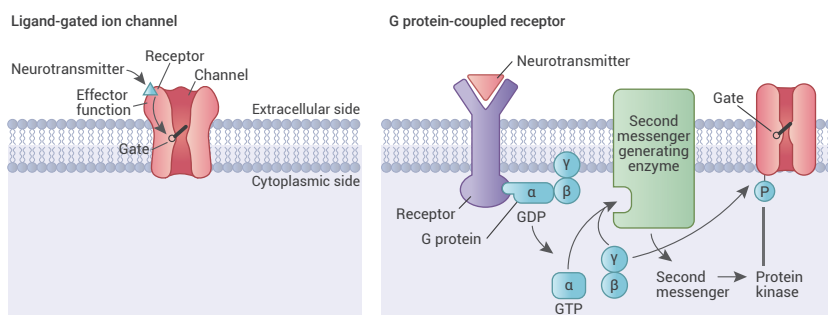


Figure 1. Neurotransmitter receptors ^[1]



For the central role of neurotransmitters, neurotransmitter receptors are critical targets for the treatment of nervous system related diseases such as psychiatric and neurologic disorders.

Compounds		
Cat. No.	Product Name	Description
HY-B0282	Acetylcholine chloride	A common neurotransmitter found in the central and peripheral nerve system.
HY-106094	CY 208-243	A selective dopamine D1 receptor agonist which exhibits anti-parkinsonian activity.
HY-B1473	5-HT hydrochloride	A monoamine neurotransmitter in the CNS and an endogenous 5-HT receptor agonist.
HY-B1204	Histamine	An organic nitrogenous compound involved in local immune responses and acts as a neurotransmitter.
HY-N0067	GABA	A major inhibitory neurotransmitter in the adult mammalian brain, binds to GABA receptors.
HY-14608A	Monosodium glutamate	Acts as an excitatory transmitter and an agonist at all subtypes of glutamate receptors.
HY-P0288	Leu5-enkephalin	A pentapeptide with morphine like properties. Acts as an agonist at opioid receptors.
HY-P1866	β-Endorphin	An endogenous opioid peptide that binds to both μ/δ opioid receptors. Analgesic properties.
HY-P0201	Substance P	A neuropeptide, acting as a neurotransmitter and as a neuromodulator in the CNS.
HY-P1480	Neuropeptide Y	A neuropeptide Y receptor agonist.
HY-P1339	Human orexin B	An endogenous agonist of orexin receptor.
HY-P0049	Vasopressin	An endogenous hormone binds to the V1, V2, V3-vascular arginine vasopressin receptor.
HY-17571	Oxytocin	A mammalian neurohypophysial hormone.
HY-P0015	Somatostatin	A tetradecapeptide which can control growth hormone and pituitary hormone secretion in CNS.
HY-P0234	Neurotensin	A gut tridecapeptide that possesses high-affinity neurotensin receptors (NTR).

Cat. No.	Product Name	Description
HY-P0195	Bombesin	A tetradecapeptide that plays an important role in the release of gastrin and the activation of G-protein receptors.
HY-P1765	Galanin	A widely distributed neuropeptide with diverse biological effects.
HY-B0495	Lamotrigine	An anti-convulsant that inhibits voltage-sensitive sodium channels.
HY-13716	Noscapine	An orally active phthalideisoquinoline alkaloid that possesses neuroprotective activity, and can cross the blood-brain barrier.
HY-12987	Pimozide	A dopamine receptor antagonist.
HY-15399	Vigabatrin	An inhibitory neurotransmitter GABA vinyl-derivative, is an orally active and irreversible GABA transaminase inhibitor.
HY-12152	PNU-120596	A selective $\alpha 7$ nAChR positive allosteric modulator for psychiatric and neurological disorders research.
HY-14418	VU0361737	A CNS penetrant positive allosteric modulator of metabotropic glutamate receptor 4 (mGluR4 PAM). Neuroprotective effect.
HY-B0527A	Amitriptyline	An inhibitor of serotonin reuptake transporter and noradrenaline reuptake transporter. Antidepressant activity.
HY-15430A	Encenicline	A partial agonist of $\alpha 7$ neuronal nicotinic acetylcholine receptors (nAChRs).
HY-15608	MPTP	A brain penetrant dopamine neurotoxin, inducing Parkinson's Disease.
HY-136390	ML417	A selective and brain penetrant D3 dopamine receptor (D3R) agonist and exhibits neuroprotection.
HY-19918A	Anatabine	A tobacco alkaloid that can cross the blood-brain barrier. A potent $\alpha 4\beta 2$ nAChR agonist for neurodegenerative disorders treatment.

Compound Screening Libraries

Cat. No. : HY-L062	Cat. No. : HY-L006
Neurotransmitter Receptor Compound Library A unique collection of compounds targeting a variety of neurotransmitter receptors.	GPCR/G Protein Compound Library A unique collection of compounds targeting GPCRs for various GPCRs-related research and drug development projects.

Peptides

Cat. No.	Product Name	Description
HY-P0252	α-MSH	α -MSH is a neuropeptide and an endogenous melanocortin receptor 4 agonist.
HY-P1240	Myelin Oligodendrocyte Glycoprotein Peptide (35-55), mouse, rat	Myelin Oligodendrocyte Glycoprotein Peptide (35-55) is a minor component of CNS myelin.

Recombinant Proteins

Cat. No.	Product Name	Description
HY-P71449	Neuropeptide B, Human	NPB is a multifaceted regulator that potentially influences various physiological processes, such as feeding, the neuroendocrine system, memory, learning, and pain pathways.
HY-P71063	NPY, Human	Neuropeptide Y plays a crucial role in complex neural circuits controlling appetite and energy balance.
HY-P71058	PDYN, Human	PDYN regulates Leu-enkephalins, mimicking opiate drug effects and impacting pain perception and stress responses.
HY-P71349	Tachykinin-3, Human	Tachykinin-3 induces neuronal excitation, behavioral responses, potent vasodilation, and secretion stimulation.
HY-P7707	Calcitonin/CALCA, Human	Calcitonin is peptide hormone.
HY-P7706	CALCB, Human	CALCB is a neuropeptide that plays a crucial role in inducing vasodilation.
HY-P74132	Galanin, Human	Galanin acts as an endocrine hormone in both the central and peripheral nervous systems.
HY-P78703	Gastrin-71, Mouse	Gastrin-71 serves as a potent stimulator of various physiological processes.
HY-P71727	Chromogranin A, Human	Chromogranin A is the major member of the granin family of acidic secretory glycoproteins expressed in all endocrine and neuroendocrine cells.

Cat. No.	Product Name	Description
HY-P71447	GABRB2, Human	GABRB2 is an important component of heteropentameric GABA receptors, which form ligand-gated chloride channels.
HY-P72140	CHRNA1, Human	CHRNA1 undergoes significant conformational changes upon acetylcholine binding, affecting all subunits and leading to ion channel activation.
HY-P72138	CHRM1, Rat	CHRM1 mediates cellular responses, including adenylate cyclase inhibition, phosphoinositide breakdown, and potassium channel modulation.
HY-P72144	CHRNA3, Human	CHRNA3, a critical contributor to collagen fibrillogenesis, regulates the rate of fibril formation and influences the assembly and organization of collagen fibrils.
HY-P74358	Calcitonin R, Human	Calcitonin R is a receptor for calcitonin and utilizes G proteins to activate adenyl cyclase.
HY-P71666	GUCY2C, Rat	GUCY2C, a guanylyl cyclase, crucially catalyzes cGMP synthesis from GTP.

Neurotransmitter Associated Enzymes

Cat. No.	Product Name	Description
HY-P72859	Butyrylcholinesterase, Mouse	Butyrylcholinesterase, an esterase with broad substrate specificity, crucially inactivates acetylcholine, thus maintaining neurotransmitter homeostasis.
HY-P72149	COMT, Human	COMT plays a crucial role by catalyzing and inactivating the O-methylation of catecholamine neurotransmitters and catechol hormones.
HY-P76874	Dopamine beta-Hydroxylase, Human	DBH is an essential enzyme involved in the regulation of neurotransmitters.
HY-P74204	DOPA Decarboxylase, Mouse	DOPA Decarboxylase plays a key role in neurotransmitter synthesis by catalyzing the decarboxylation of L-DOPA to produce dopamine and L-5-HTP to produce serotonin.
HY-P73566	Tryptophan hydroxylase 1, Human	TPH-1 is key to serotonin biosynthesis, catalyzing the rate-limiting step: the oxidation of L-tryptophan to 5-hydroxy-L-tryptophan.

Neural Stem Cells

Neural stem cells (NSCs) have the ability to self-renew and to differentiate into three neural lineages (i.e. neurons, oligodendrocytes and astrocytes). So, NSCs are promising therapeutics for diseases associated with the nervous system.

Except for direct isolation from primary tissues, NSCs can also be obtained by differentiation from pluripotent stem cells and transdifferentiation from somatic cells. Nowadays, small molecules are reported to gain their roles in transdifferentiating somatic cells into NSCs and some of them are listed as followed.

However, it is also important to maintain the balance between the proliferation and differentiation of NSCs as aberrant NSC proliferation can lead to tumorigenesis.

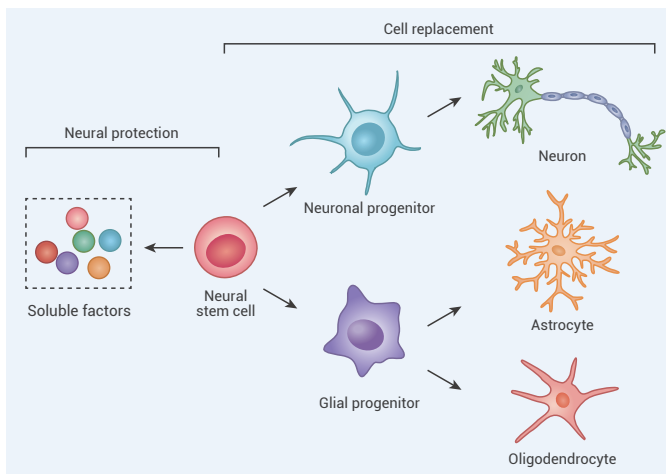


Figure 2. Functions of NSCs [2]

Compounds

Cat. No.	Product Name	Description
HY-15036	Diclofenac	Acts as a COX inhibitor and induces apoptosis of neural stem cells (NSCs).
HY-12323	Isoxazole 9	A potent inducer of adult neural stem cell differentiation.
HY-10585	Valproic acid (VPA)	A potent HDAC inhibitor for the treatment of epilepsy, bipolar disorder and prevention of migraine headaches.
HY-10182	CHIR99021	A potent and selective GSK-3 α/β inhibitor, enhances mouse and human embryonic stem cells self-renewal.
HY-13012	Repsox	A potent and selective of the TGF β R-1/ALK5 inhibitor. RepSox can replace Sox2.
HY-10432	A83-01	A potent inhibitor of TGF- β type I receptor ALK5 kinase, type I nodal receptor ALK4 and type I nodal receptor ALK7.
HY-10587	BIX-01294	An inhibitor of G9a histone methyltransferase.
HY-13642	RG108	A non-nucleoside DNA methyltransferases inhibitor.
HY-B0166	Vitamin C	An electron donor and an endogenous antioxidant agent.
HY-10254	PD0325901	An orally active, selective and MEK inhibitor.

Cat. No.	Product Name	Description
HY-14649	Retinoic acid	A natural agonist of RAR nuclear receptors. Plays important roles in cell growth, differentiation, and organogenesis.
HY-12071	LDN193189	A selective BMP type I receptor inhibitor.
HY-124899	Hh-Ag 1.5	A potent Hedgehog agonist that breaks the quiescence of non-injured liver stem cells for rescuing liver failure.
HY-B1496	Tranlycypromine hemisulfate	An irreversible MAO inhibitor for the treatment of depression.
HY-100200	SMER28	A positive regulator of autophagy in an mTOR-independent manner. Prevents the accumulation of A β peptide.
HY-13257	Thiazovivin	A ROCK inhibitor that protects human embryonic stem cells. Improves the efficiency of iPSC generation.
HY-15108	Purmorphamine	A smoothened (Smo) receptor agonist that stimulates osteogenic differentiation in murine and human cells.
HY-10591	Neuropathiazol	Induces neuronal differentiation of multipotent hippocampal neural progenitor cells.
HY-103361	SB297006	A CCR3 antagonist that significantly inhibits proliferation and neurosphere formation in CCL11-treated neural progenitor cells.
HY-108439	Neurodazine	A promoter of neurogenesis in pluripotent cells. Promotes neurogenesis by activating Wnt and Shh signaling pathways.
HY-W019870	Glufosinate	A phosphinic acid analogue of glutamic acid, which exerts neurotoxic activity.
HY-N6953	Garcinone D	A natural xanthone that promotes the proliferation of C17.2 neural stem cell.
HY-10046	Plerixafor	A selective CXCR4 antagonist. A hematopoietic stem cell (HSC) mobilizer.
HY-15838	ID-8	A DYRK inhibitor that sustains embryonic stem cell (ESC) self-renewal and pluripotency.
HY-10936	S 18986	A selective, orally active, brain penetrant AMPA positive allosteric modulator that enhances cognitive properties.
HY-108628	SU16f	A selective PDGFR β inhibitor that blocks the promoting role of GC-MSCs in gastric cancer cell proliferation and migration.
HY-N0204	Pulchrenoside A	A natural triterpenoid saponin. AMPAR and NMDAR modulator.

Compound Screening Library

Cat. No. : HY-L039

Reprogramming Compound Library

A unique collection of compounds that act on reprogramming signaling pathways.

Chemical Cocktails

HY-10585
VPAHY-10182
CHIR99021HY-13012
RepSoxA combination of small molecules that induces reprogramming of mouse fibroblasts and human urinary cells into neural progenitor cell^[3].HY-10585
VPAHY-10182
CHIR99021HY-10432
A 83-01HY-10587
BIX-01294HY-13642
RG108HY-B0166
Vitamin CHY-10254
PD0325901A combination of small molecules that induces reprogramming of mouse fibroblasts into neural stem cell^[4].HY-10182
CHIR99021HY-10432
A 83-01HY-124899
Hh-Ag1.5HY-100200
SMER28HY-12071
LDN193189HY-B1496
TranylcypromineHY-13642
RG108A combination of small molecules that induces reprogramming of mouse fibroblasts into neural stem cell-like cells (ciNSLCs)^[5].HY-10432
A 83-01HY-13257
ThiazovivinHY-15108
PurmorphamineHY-10585
VPAA combination of small molecules that induces reprogramming of mouse fibroblasts into neural stem cell^[6].HY-10585
VPAHY-10182
CHIR99021HY-12071
LDN193189HY-10431
SB431542HY-15682
TTNPBHY-13257
ThiazovivinHY-13027
DAPTHY-12848
SAGHY-15108
PurmorphamineA combination of small molecules can reprogram human astrocytes into fully functional neurons^[7].

Recombinant Proteins

Cat. No.	Product Name	Description
HY-P70311	Activin A, Human/Mouse/Rat	Activin promotes cortical interneuron identity and differentiation in ESC-derived telencephalic neural precursors.
HY-P7067	EGF, Mouse	EGF is commonly used to promote the proliferation and differentiation of NSCs <i>in vitro</i> .
HY-P7004	FGF basic/bFGF, Human	bFGF is commonly used to promote the proliferation and differentiation of NSCs <i>in vitro</i> .
HY-P7006	BMP-2, Human/Mouse/Rat	BMPs, crucial morphogens, play a pivotal role in nervous system development.
HY-P70453	Wnt3a, Human	WNT signaling modulates the balance of NSCs proliferation and differentiation during neurogenesis.
HY-P70467	SHH, Human	The Sonic hedgehog pathway influences neurogenesis and neural patterning during central nervous system development.

Neurodegenerative Diseases

Neurodegenerative diseases are a series of diseases caused by tremendous neuronal dysfunction and death including Parkinson's Disease (PD), Alzheimer's Disease (AD), Huntington's Disease (HD), Amyotrophic Lateral Sclerosis (ALS), and Prion Diseases, etc. It is reported that oxidative stress, environmental factors, aging and protein dysfunction are the major risk factors for neurodegeneration.

Protein misfolding, accumulation and aggregation are common characteristics in many neurodegenerative diseases. Protein aggregates formed by proteins such as α -synuclein, tau, and β -amyloid ($A\beta$) peptides will trigger unfolded protein response (UPR), ER stress, and autophagy

of neurons. The dysfunction of mitochondrial may lead to the induction of apoptosis. What's more, the reports about the function of non-neuronal cells (glia) and neuroinflammation in neurodegeneration are growing.

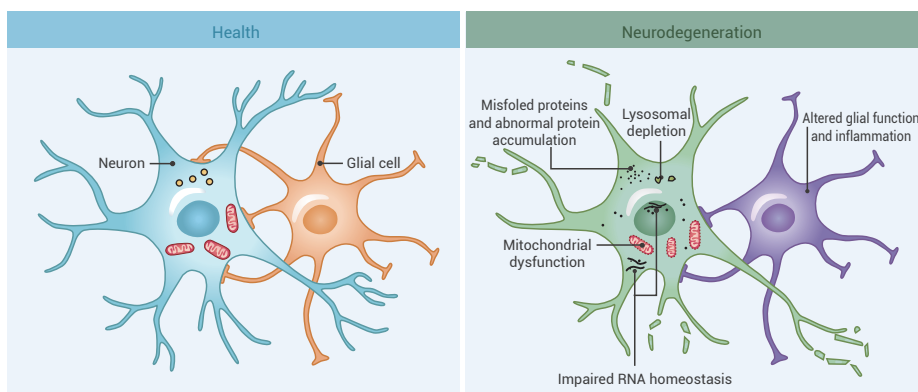


Figure 3. Major risk factors contribute to neurodegeneration [8]



Compounds

Cat. No.	Product Name	Description
HY-115038	ELN484228	A blocker of α -synuclein which is a key protein in Parkinson's Disease.
HY-124876	SynuClean-D	A potent α -synuclein aggregation inhibitor for the treatment of Parkinson's Disease.
HY-N2099	Onjisaponin B	Accelerates the degradation of mutant α -synuclein, and exhibits potential therapeutic effects on Parkinson's Disease and Huntington's Disease.
HY-50882	ELN 318463	An amyloid precursor protein (APP) selective γ -secretase inhibitor.
HY-W010041	Scyllo-Inositol	An amyloid inhibitor that lowers amyloid plaques in an Alzheimer's Disease mouse model.
HY-103374	Phenserine	An AChE inhibitor that inhibits β -amyloid peptide formation. Improves cognitive performance and attenuates the progression of Alzheimer's Disease.
HY-N0064	Macelignan	Possesses therapeutic potentials against neurodegenerative diseases with oxidative stress and neuroinflammation.
HY-101860	GIBH-130	An effective inhibitor of neuroinflammation and significantly suppresses the IL-1 β secretion by activating microglia.
HY-125999	EPI-589	A quinone derivative, which has the potential for the treatment of amyotrophic lateral sclerosis (ALS).
HY-122607	DPA-714	Evaluates for the specific imaging of inflammation in various models of neuroinflammation and in a brain tumor model.
HY-135749	BN201	Activates pathways associated with the response to stress and neuron survival. Neuroprotective effects.
HY-124293	AA147	An endoplasmic reticulum (ER) proteostasis regulator.
HY-15976	P7C3	An orally available and CNS penetrant aminopropyl carbazole, with neuroprotective effects.
HY-P1061A	Colivelin TFA	A brain penetrant neuroprotective peptide that has the potential for the treatment of Alzheimer's Disease and ischemic brain injury.
HY-17646	Verdiperstat	A selective, irreversible and orally active MPO inhibitor that can be used in the research of neurodegenerative brain disorders.
HY-105285	Piromelatine	A melatonin MT1/MT2 receptor agonist that possesses anti-neurodegenerative, anxiolytic and antidepressant potentials.

Compound Screening Libraries

Cat. No. : HY-L054	Cat. No. : HY-L069
Endoplasmic Reticulum Stress Compound Library A unique collection of endoplasmic reticulum stress-related compounds that acts a useful tool for researching ER related diseases.	Anti- Alzheimer's Disease Compound Library A unique collection of compounds with anti-Alzheimer's Disease activities or targeting the unique targets of AD.
Cat. No. : HY-L070	
Neuroprotective Compopund Library A unique collection of compounds with potential neuroprotective activities.	

Recombinant Proteins

Cat. No.	Product Name	Description
HY-P71752	Tau Protein, Mouse	The tau protein, implicated in neurodegenerative disorders known as tauopathies, is found in diseases like Alzheimer's disease.
HY-P72834	APP/Protease Nexin-II, Human	APP is a major component of neuritic plaques and cerebrovascular deposits in individuals with Alzheimer's disease and Down syndrome.
HY-P72840	BACE1, Human	BACE1 is critical in Alzheimer's disease pathology.
HY-P75588	BACE-2, Mouse	BACE-2 is critically involved in the proteolytic processing of APP.
HY-P70577	alpha-Synuclein, Human	Alpha-synuclein is a key neuronal protein that regulates synaptic activity, including vesicle transport and neurotransmitter release.
HY-P7531	Apolipoprotein E, Human	APOE is a key regulator of lipid metabolism and a leading genetic risk factor for Alzheimer's disease.
HY-P70577	SNCA, Human	Alpha-synuclein (SNCA) is a key neuronal protein that regulates synaptic activity.
HY-P72811	Acetylcholinesterase/ACHE, Mouse	AChE crucially impacts neurodegenerative diseases' pathogenesis via its influence on inflammatory response, apoptosis, oxidative stress, and pathological protein aggregation.

Peptides

Cat. No.	Product Name	Description
HY-P0128	β-Amyloid (25-35)	β -Amyloid (25-35) is the fragment amyloid β -peptide, has shown neurotoxic activities in cultured cells.
HY-P1363	β-Amyloid (1-42), human TFA	β -Amyloid (1-42), human is a 42-mer amyloid β -peptide which plays a key role in the pathogenesis of Alzheimer disease.
HY-P1388	β-Amyloid (1-42), (rat/mouse)	β -Amyloid (1-42), (rat/mouse) shows cytotoxic effect on acute hippocampal slices, and used in the research of Alzheimer's disease.

Antibody

Cat. No.	Product Name	Description
HY-P80480	Phospho-Tau (Ser396) Antibody	A non-conjugated and Rabbit originated monoclonal antibody.
HY-P81739	Phospho-alpha Synuclein (Ser129) Antibody (YA1484)	A non-conjugated and Rabbit originated monoclonal antibody.
HY-P80139	GFAP Antibody (YA755)	A non-conjugated and Mouse originated monoclonal antibody.
HY-P80349	Stathmin 1 Antibody (YA050)	A non-conjugated and Rabbit originated monoclonal antibody.
HY-P81215	Neutrophil Elastase Antibody	An unconjugated, approximately 26 kDa, rabbit-derived, anti-Neutrophil Elastase polyclonal antibody.
HY-P80241	NeuN Antibody	A non-conjugated and Rabbit originated monoclonal antibody.
HY-P80188	Huntingtin Rabbit mAb	A non-conjugated and Rabbit originated monoclonal antibody.
HY-P81119	MTNR1A Antibody	An unconjugated, rabbit-derived, anti-MTNR1A polyclonal antibody.
HY-P81100	ChAT Antibody	An unconjugated, rabbit-derived, anti-ChAT polyclonal antibody
HY-P81092	DRD2 Antibody	An unconjugated, rabbit-derived, anti-DRD2 polyclonal antibody
HY-P83498	Sortilin Antibody (YA3243)	An unconjugated, anti-Sortilin monoclonal antibody.
HY-P80136	GABARAP Antibody	A non-conjugated monoclonal antibody, targeting to GABARAP.

Blood Brain Barrier

The blood-brain barrier (BBB) protects the central nervous system (CNS) from the peripheral blood circulation and supplies the brain with the required nutrients for normal function. It is a multicellular vascular structure that mainly composed of brain microvascular endothelial cells (ECs), pericytes, astrocytes and the basement membrane (Figure 4). ECs cells contribute to the barrier property by forming tight junctions (TJs) and limiting transcytosis. Pericytes are cells that cover capillaries and play important roles in the formation, maturation and maintenance of BBB. Astrocytes participate in BBB maintenance and ion/water transport by interacting with ECs and pericytes. For the important roles in maintaining the homeostasis of CNS, BBB disruption has been found in a variety of neurological disorders. Meanwhile, BBB is also an obstacle to deliver beneficial drugs to treat CNS diseases or brain tumors, as it has the least permeable capillaries in the entire body. Therefore, it is crucial to discover drugs which can regulate this barrier for the treatment of brain-based diseases, such as Alzheimer's Disease (AD), Parkinson's Disease (PD) and Epilepsy.

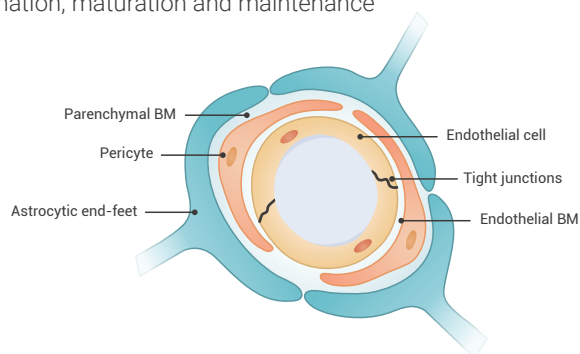


Figure 4. Schematic of blood-brain barrier ^[9]

Compounds & Compound Screening Libraries

Cat. No.	Product Name	Description
HY-114426	AT-1002	A tight junction regulator and absorption enhancer.
HY-15204	Tonabersat (SB-220453)	A gap-junction modulator that prevents inflammatory damage in the central nervous system.
HY-P0139	Gap 27	A synthetic Cx43 mimetic peptide. A gap junction inhibitor.
HY-10913	Danegaptide (GAP-134)	An orally active gap-junction modifier with an antiarrhythmic effect.
HY-13779	J-147	A CNS penetrant neuroprotective agent for cognitive enhancement.
HY-136341	7,8-Dihydroneopterin	Induces cellular apoptosis in astrocytes and neurons and can be used in the research of neurodegenerative diseases.
HY-107661	Arundic Acid	An astrocyte-modulating agent, which has the potential for stroke and Alzheimer's Disease research.
HY-10052	Aprepitant (MK-0869)	A neurokinin 1 receptor antagonist. Approved by FDA for the treatment of chemotherapy-induced nausea.
HY-100740	Lanabecestat (AZD3293)	A CNS penetrating BACE1 inhibitor for the treatment of Alzheimer's Disease.

Cat. No.	Product Name	Description
HY-104003	S 38093	A CNS penetrating antagonist of H3 receptor that enhances hippocampal neurogenesis.
HY-108295	Pivagabine (CXB-722)	A hydrophobic 4-aminobutyric acid derivative with neuromodulatory activity.
HY-108710	VU0650786	A CNS penetrant negative allosteric modulator of mGlu3 NAM.
HY-114153	PLX5622	A highly selective brain penetrant and oral active CSF1R inhibitor for extended and specific microglial elimination.
HY-N0304	L-DOPA	An orally active and CNS permeant metabolic precursor of neurotransmitter dopamine for Parkinson's Disease.
HY-110256	N-Acetylcysteine amide	A blood brain barrier permeant thiol antioxidant and a neuroprotective agent, reduces ROS production.
HY-15608	MPTP	A brain penetrant dopamine neurotoxin, inducing Parkinson's Disease.
HY-12599	URMC-099	An orally bioavailable and potent MLK3 inhibitor that has excellent blood-brain barrier penetration properties.
HY-15976	P7C3	An orally bioavailable and blood-brain barrier penetrant aminopropyl carbazole, with neuroprotective effects.

Compound Screening Library

Cat. No. : HY-L028

CNS-Penetrant Compound Library

A unique collection of bioactive CNS-penetrant compounds for the discovery of drugs used for brain diseases.

References:

- [1]. Curr Biol. 2005 Mar 8;15(5):R154-8.
- [2]. Cell Death Dis. 2017 Oct 12;8(10):e3108.
- [3]. Cell Res. 2014 Jun;24(6):665-79.
- [4]. Stem Cells Int. 2016;2016:4304916.
- [5]. Cell Stem Cell. 2016 May 5;18(5):653-67.
- [6]. Biochem Biophys Res Commun. 2016 Jul 15;476(1):42-8.
- [7]. Cell Stem Cell. 2015 Dec 3;17(6):735-747.
- [8]. Sci Transl Med. 2016 Nov 9;8(364):364ps18.
- [9]. Stroke Vasc Neurol. 2018 Dec 5;4(2):78-82.

Master of Bioactive Molecules

— www.MedChemExpress.com —



Your distributor in Switzerland

LubioScience GmbH
Baumackerstrasse 24
8050 Zurich

+41 41 417 02 80

info@lubio.ch
www.lubio.ch

MedChemExpress USA

Tel: 609-228-6898

Fax: 609-228-5909

Address: 1 Deer Park Dr, Suite F, Monmouth Junction, NJ 08852, USA

E-mail: sales@MedChemExpress.com

Tech Support: tech@MedChemExpress.com

For research use only.
We do not sell to patients.

MedChemExpress Europe

Tel: +4686500910

Address: Bergkällavägen 37C 192 79 Sollentuna SWEDEN

E-mail: eu.sales@MedChemExpress.com

**Master of
Bioactive Molecules**

www.MedChemExpress.com