



NEUROSCIENCE

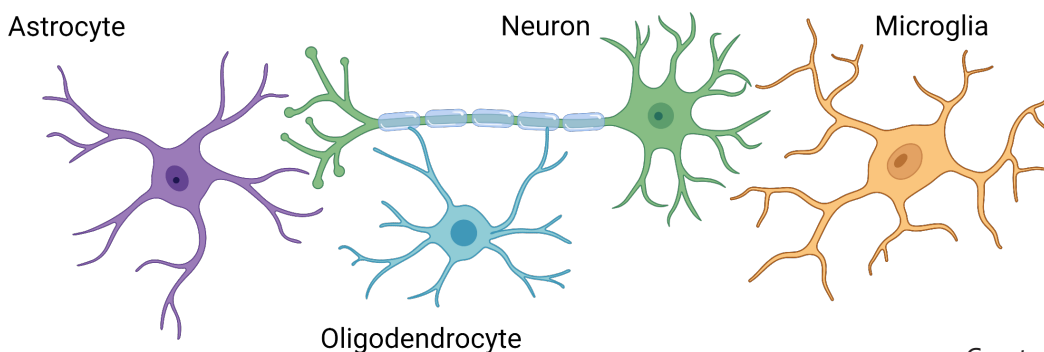
RESEARCH SOLUTIONS

Active Proteins | Assay Kits | Cell Lines | Neutralizing Antibodies
Custom Product Development | Screening & Profiling



Unlocking Mysteries of the Brain

Neuroscience research plays a pivotal role in our understanding of the human brain and its neural system, making it a crucial field with far-reaching implications. By exploring the structure, function, and development of the nervous system, neuroscience provides insights into the fundamental mechanisms underlying how our brains function. This knowledge is essential for advancing our comprehension of neurological disorders, mental health conditions, brain malignancies, and brain-related injuries, leading to improved diagnostic techniques, novel therapeutic interventions, and more personalized treatments. Ultimately, neuroscience research is indispensable for enhancing human well-being, unraveling the complexities of the mind, and shaping the future of medicine and technology.



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Our Advantages



Produced In-House

- Made in the USA at our San Diego, CA laboratory
- Get customized, personal support directly from the source



Committed to Excellence

- ISO 9001:2015-certified Quality Management System
- Lot-specific quality testing



Custom Development & Screening Services

- Custom product development: proteins, virus-based tools, cell lines, and assay kits
- Screen your library against our assay kits to determine IC₅₀ or single point tests



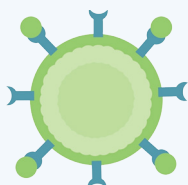
Unique Portfolio

- Reporter and expression cell lines: CGRPR/CRE Luciferase, NCAM1 CHO
- iPSC-derived neural progenitor reporter cell pools
- Recombinant proteins, including mutant variants: Tau, LRRK2
- Inhibitor screening assay kits: BACE1, TRIM24, Notch, TrkA, TrkB
- Neutralizing antibodies: β -NGF, GFRAL, β -Amyloid
- CNS-tropic AAV products to deliver reporter controls or Cas9 for CRISPR applications

Engineered Cell Lines

Recombinant cell lines or cell pools can serve as excellent model systems in a variety of applications for neuroscience research. Our selection of many novel cell lines enable new cellular insights into signaling pathways, binding studies, and drug discovery.

● Overexpression/Knockout Cell Lines



- Antibody screening
- Study ion channels, GPCR screens, and metabolite-based assays
- Flow cytometry analysis
- Binding studies

● Reporter Cell Lines



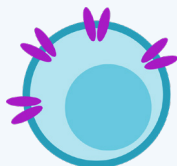
- Measure signaling activity, promoter activity or transcription factor activity
- Screen for inhibitors or activators
- Use with our ONE-Step™ Luciferase Assay System

● Cas9-Expressing Neuro2A Cell Pool & Cell Line



- CRISPR-based system to quickly generate knockout cell pools or cell lines
- Implement sgRNA screens

● Voltage-Gated Ion Channel Cell Lines



- Screen for modulators and inhibitors of ion channels
- Measure effects of ion channel activation



All our cell lines and cell pools come with an optimized set of media products, including thaw medium, growth medium, assay medium, and freezing medium. These ready-to-use pre-mixed accessory products will simplify your workflow, sparing you from having to qualify media products and their supplements, including FBS and antibiotics.

Bioactive Recombinant Proteins & Antibodies

BPS Bioscience specializes in manufacturing bioactive enzymes and protein complexes, offering over 2000 protein products critical for drug discovery. Our Neuroscience portfolio includes wild-type and mutant variants of key proteins, including Tau and LRRK2, as well as other key cellular proteins such as ADAR1, GFRAL, PDE9A2, TREM2, TRIM24, and many more. We also feature a number of soluble mediators, such as BDNF, GGF2, Neuregulin 1 β , and Neurotrophins.

Protein options include:



HiP™ Proteins (High Purity, Low Aggregation)

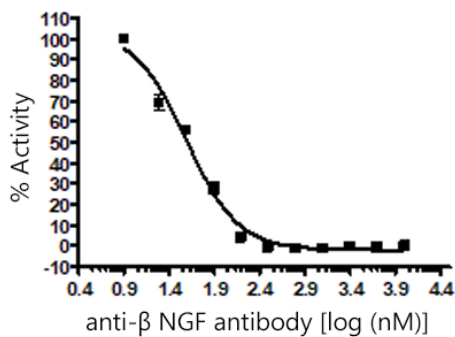
- >90% purity
- Verified via HPLC to guarantee <10% aggregation
- Ideal for studying enzyme activity, ligand binding, protein folding, and more

Bulk Production and Customization

Product sizing, formulations, tags, mutations, and activity testing can be customized to meet your research needs.

Antibodies

- Neutralizing antibodies against β -NGF, GFRAL, and β -Amyloid
- Antibodies for binding and labeling assays: β -Tubulin, NCAM1, TFR



Anti- β -NGF antibody (#100436) blocks recombinant β -NGF activation of TrkA/SRE Luciferase HEK293 cell line (#79798) in a dose-dependent manner.

High Titer AAV for Gene & Cell Therapy Applications

To support gene and cell therapy applications, we have developed a suite of engineered Adeno-Associated Virus (AAV) products. Our ready-to-use high titer AAV products can deliver fluorescence reporter genes or luciferase to serve as infection controls or deliver SaCas9 for CRISPR-based gene editing. The following AAV serotypes are known to infect CNS cells:



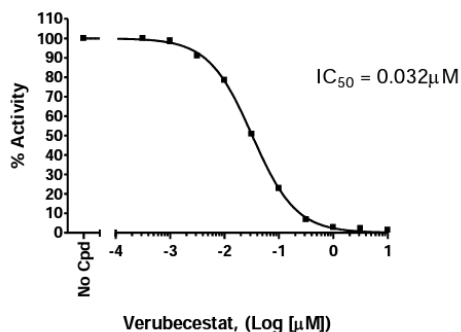
CNS/Retina



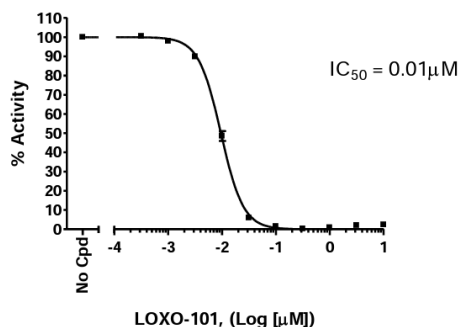
Biochemical Assay Kits & Screening Services

BPS Bioscience offers a selection of neuroscience target assay kits to determine effectiveness and potency of small molecule, peptide, or antibody inhibitors. Featured kits include BACE1, PDE9A2, SARM1, TRKA, TRKB, and TRIM24.

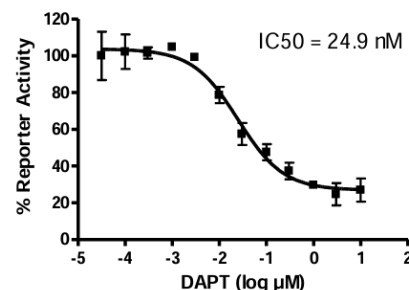
BACE1 Assay



TrkA Assay



Notch1 Reporter Assay



Using our in-house developed kits, we offer rapid and dependable screening services to determine target hits and IC₅₀ values of small molecules, peptides, and antibodies against desired targets. Our deliverables include:

Detailed Results



Extensive report with raw and analyzed data, graphs, and detailed protocols. Typically includes positive controls for inhibition.

Fast Turnaround



Receive results within weeks after our receipt of your compounds.

Quality & Consistency



Proteins and enzymes synthesized and QC'd in-house to ensure the highest level of inter- and intra-assay consistency.

Customizable Options



Choose from over 20 in-house developed Neuroscience assays or let us build a custom assay for your screen.

Why choose BPS Bioscience for your screening projects?

- We can provide end-to-end customization from protein production to assay development, completing with compound screening.
- We have extensive expertise and experience in developing and manufacturing custom and off-the-shelf proteins and assay kit products.
- We have helped accelerate projects across large pharma, vaccine developers, biotech and basic research institutions.
- Our high quality projects have returned excellent customer satisfaction scores.

Let's get started on your next discovery.

AAVs	Catalog#	Antibodies	Catalog#
AAV-DJ Luciferase	78451	Anti-TFR Antibody	101595
AAV-DJ Luciferase-eGFP	78460	Anti-TFR Antibody, Biotin-Labeled	101596
AAV-DJ Luciferase-mCherry	78469	Anti- β -Amyloid, Plaque Neutralizing Antibody	71223
AAV-DJ MBP eGFP	82112	Anti- β -Tubulin (BT7R)	79468
AAV-DJ SaCas9	78478	FluoSite™ Anti-NCAM1 Antibody, FITC-Labeled	101865
AAV-DJ Scrambled shRNA Control	78871	FluoSite™ Anti-NCAM1 Antibody, PE-Labeled	101673
AAV-DJ ZsGreen	78442		
AAV1 Luciferase	78452	Biochemical Assay Kits	Catalog#
AAV1 Luciferase-eGFP	78461	ACHE Colorimetric Assay Kit	82281
AAV1 Luciferase-mCherry	78470	BACE1 Assay Kit	71656
AAV1 SaCas9	78479	Chemi-Verse™ CDK5/p35 Kinase Assay Kit	82249
AAV1 ZsGreen	78443	Chemi-Verse™ TTBK2 Kinase Assay Kit	82225
AAV2 Luciferase	78453	GDF15: GFRAL [Biotinylated] Inhibitor Screening Chemiluminescent Assay Kit	82875
AAV2 Luciferase-eGFP	78462	Kynureninase Inhibitor Screening Assay Kit	79514
AAV2 Luciferase-mCherry	78471	NAMPT Inhibitor Screening Assay Kit	71276
AAV2 SaCas9	78480	Notch1:DLL4 [Biotinylated] Inhibitor Screening Chemiluminescence Assay Kit	82284
AAV2 ZsGreen	78444	PDE10A (Mouse) Assay Kit	79643
AAV4 ZsGreen	78446	PDE10A1 Assay Kit	60385
AAV5 Luciferase	78456	PDE10A1 TR-FRET Assay Kit	60709
AAV5 Luciferase-eGFP	78465	PDE10A2 Assay Kit	60400
AAV5 Luciferase-mCherry	78474	PDE10A2 TR-FRET Assay Kit	60710
AAV5 SaCas9	78483	PDE2A (Mouse) Assay Kit	79648
AAV5 ZsGreen	78447	PDE4D7 Assay Kit	82885
AAV8 Luciferase	78458	PDE7A (Mouse) Assay Kit	79644
AAV8 Luciferase-eGFP	78467	PDE9A2 Assay Kit	60381
AAV8 Luciferase-mCherry	78476	SARM1 Fluorogenic Assay Kit (Hydrolase Activity)	78217
AAV8 SaCas9	78485	TPH1 Inhibitor Screening Assay Kit	72053
AAV8 ZsGreen	78449	TPH1 Inhibitor Screening Assay Kit	72056
AAV9 Luciferase	78459	TPH2 Inhibitor Screening Assay Kit	72054
AAV9 Luciferase-eGFP	78468	TPH2 Inhibitor Screening Assay Kit	72057
AAV9 Luciferase-mCherry	78477	TRIM24 TR-FRET Assay Kit	32630
AAV9 SaCas9	78486	TrkA Assay Kit	79548
Antibodies	Catalog#	TRKB Kinase Assay Kit	78591
Anti-Beta NGF (Nerve Growth Factor) Neutralizing Antibody	100436	USP13 Inhibitor Screening Assay Kit	83539
Anti-GFRAL Neutralizing Antibody	101351	Cell Lines	Catalog#
Anti-NCAM1 (CD56) IgG Antibody, Biotin-labeled	101112	Adenosine A2A Receptor Functional HEK293 Cell Line	79381
Anti-Notch Neutralizing Antibody	102065	Calcitonin Gene Related Peptide Receptor (CGRPR)/CRE Luciferase Reporter HEK293 Cell Line	78325

Cell Lines	Catalog#
Cas9-Expressing Neuro2A Cell Line (Low Expression)	78137
Cas9-Expressing Neuro2A Cell Pool	78087
CSL Reporter - HEK293 Cell line	79754
eGFP/Firefly Luciferase U-87 MG Cell Line	78904
Full Length Notch1/CSL Luciferase Reporter HEK293 Cell Line	82201
hERG (Kv11.1) - HEK293 Cell line	60619
IKCA1 (KCNN4) HEK293 Cell Line	90330
Muscarinic Acetylcholine Receptor (mAChR) M1/NFAT Luciferase Reporter HEK293 Cell Line	82727
Muscarinic Acetylcholine Receptor (mAChR) M3 /NFAT Luciferase Reporter HEK293 Cell Line	82728
Muscarinic Acetylcholine Receptor (mAChR) M5/NFAT Luciferase Reporter HEK293 Cell Line	82729
Nav1.7-GFP HEK293 Cell Line	60507
Nav1.8/β2 - HEK293 Cell Line	60521
NCAM1 (CD56) CHO Cell Line (High, Medium, or Low Expression)	78352
NET - CHOK1 Cell Line	60557
NLRP3 Knockdown THP-1 Cell Pool	82121
Notch1/CSL Luciferase Reporter HEK293 Cell Line	60652
PDE10A-HEK293 Cell line	60410
TMEM16A-HEK293 Cell Line	90230
TMEM16B (ANO2) - HEK293 Cell line	90332
TrkA / SRE Luciferase Reporter HEK293 Cell Line	79798
TRPC3-HEK293 Cell Line	90130
TRPC7-HEK293 Cell Line	90030
TRPM2-HEK293 Cell Line	90331

Cell-Based Assays and Expression Kits	Catalog#
Mouse Notch1 Pathway Reporter Kit (Notch Signaling Pathway)	60509
Notch1 NICD Pathway Reporter Kit (Mouse)	79504
Notch1 Pathway Reporter Kit (Human)	79503
Transfection Collection™ : Mouse Notch1/CSL Transient Pack (Notch Signaling Pathway)	79285

Inhibitors/Activators	Catalog#
Carbidopa	79791
CHS-828	27333
Donepezil HCl	27619-1
Donepezil HCl	27619-2
ICG 1	27752-1
ICG 1	27752-2
ICG 1	27752-3

Inhibitors/Activators	Catalog#
Levodopa	79792

Lentiviruses	Catalog#
LYPD1 Lentivirus	78724
NLRP3 CRISPR/Cas9 Lentivirus (Integrating)	78545
NLRP3 CRISPR/Cas9 Lentivirus (Non-Integrating)	78546
NLRP3 Human shRNA Lentivirus	82122
Notch1Δe Lentivirus	78747

Proteins	Catalog#
14-3-3 alpha/beta Protein, His-tag (Human)	79023
ACHE, His-Tag	11004
ADAR1, FLAG-Tag	100472
ADAR2 (ADARB1), FLAG-Tag	101164
BACE1, His-Tag (Human)	71657
Cathepsin B, His-Tag	80001
COMT, His-Tag	100490
DLK1, Avi-His-Tag HiP™	101745
DLK1, Avi-Tag, His-Tag, Biotin-Label	101781
DLL1, Avi-Tag, His-Tag, Biotin-Labeled	101810
DLL1, Avi-Tag, His-Tag,	101805
DLL4, Fc Fusion, Avi-Tag	101903
DLL4, Fc Fusion, Avi-Tag, Biotin-Labeled	101904
EPHA2, His-tag	40190
FNDC5, Avi-His-Tag	100425
FNDC5, Avi-His-Tag, Biotin Labeled	100426
Frizzled-1, Fc fusion	71123
Frizzled-10, Fc fusion	71124
Frizzled-4, Fc fusion	71126
Frizzled-7, Fc Fusion	71139
GFRAL, Fc Fusion, Avi-Tag	101012
GFRAL, Fc Fusion, Avi-Tag, Biotin-Labeled	101013
Human Brain-Derived Neurotrophic Factor	90110-A
Human Brain-Derived Neurotrophic Factor	90110-B
Human Glial growth factor (GGF2)	90255-A
Human Glial growth factor (GGF2)	90255-B
Human Neurotrophin-3	90225-A
Human Neurotrophin-3	90225-B

Proteins	Catalog#	Proteins	Catalog#
Human Neurotrophin-4	90226-A	Skd3 (E455Q), MBP-Tag	101772
Human Neurotrophin-4	90226-B	Skd3, MBP-Tag	101770
Human Superoxide Dismutase	90240-A	TAC1, Fc Fusion (IgG1) Avi-Tag, Biotin Labeled, HiP™	100284
Human Superoxide Dismutase	90240-B	Tau-316 Protein	90327
KYNU, His-Tag	79485	Tau-352 Protein	90328
LRRK2 (D1994A), GST-Tag	40831	Tau-381 Protein	90329
LRRK2 (G2019S), GST-Tag	40832	Tau-383 (N352H) Protein	90310
LRRK2 (G2385R), GST-Tag	40833	Tau-383 Protein	90311
LRRK2 (I2020T), GST-Tag	40834	Tau-410 Protein	90312
LRRK2 (R1441C), GST-Tag	40835	Tau-412 Protein	90313
LRRK2 (R1441G), GST-Tag	40836	Tau-441 (1-421) Protein	90314
LRRK2 (R1441H), GST-Tag	40837	Tau-441 (A152T) Protein	90341
LRRK2 (Y1699C), GST-Tag	40838	Tau-441 (dK280) Protein	90342
LRRK2 (Y1699G), GST-Tag	40839	Tau-441 (dN296) Protein	90343
LRRK2, GST-Tag	40842	Tau-441 (G272V) Protein	90344
NAMPT (PBEF1)	71098	Tau-441 (K257T) Protein	90345
NAMPT (PBEF1), GST-tag	91004	Tau-441 (L266V) Protein	90346
NCAM1, Avi-His-Tag, Biotin-Labeled	101044	Tau-441 (N279K) Protein	90347
NCAM1, Avi-His-Tag, HiP™	101043	Tau-441 (P301L) Protein	90348
Neuregulin 1 beta , Human	90224-A	Tau-441 (P301S) Protein	90349
Neuregulin 1 beta , Human	90224-B	Tau-441 (R406W) Protein	90321
Neuropilin-1, Avi-His-Tag	100870	Tau-441 (S198A) Protein	90322
Neuropilin-1, Avi-His-Tag, Biotin-labeled, HiP™	100911	Tau-441 (S198E) Protein	90323
NLRP3 (delPYD) / NEK7 Complex	100477	Tau-441 (S199E) Protein	90324
NLRP3 (delPYD), FLAG-Tag	100454	Tau-441 (S214A) Protein	90325
NLRP3 (K232A), His-FLAG-Tag (Sf9-derived)	40741	Tau-441 (S305N) Protein	90326
NLRP3 (NALP3) (GKT(231-233)AAA), His-Flag-Tags (HEK293-derived)	100190	TFRC (Transferrin Receptor), Avi-Tag, Fc Fusion, Biotinylated	101315
NLRP3 (NALP3), His-FLAG-Tags (Sf9-derived)	80117	TFRC, Avi-Tag, Fc Fusion (IgG1)	101287
NLRP3 (NALP3), His-Flag-Tags	100189	TPH1, His-tag (Human)	71192
Notch1, Avi-His-Tag	101897	TPH2, His-tag (Human)	71193
Notch2, Fc Fusion, Avi-Tag	101986	TREM2, Fc-fusion (IgG1), Avi-Tag (Mouse)	79458
Notch2, Fc Fusion, Avi-Tag, Biotin-Labeled	101987	TREM2, Fc-fusion (IgG1), Avi-Tag (Mouse), Biotin	79459
PDE10A (Mouse), GST-tag	60101	TREM2, Fc-fusion (IgG1), Avi-Tag, Biotin-Labeled	79418
PDE10A (Rat), GST-tag	60102	TRIM24 (TIF1), GST-tag	31127
PDE10A1, GST-tag	60099	TRIM24 (TIF1), His-tag	31116
PDE10A2, GST-Tag	60100	TRKA, GST-tag	40280
PDE9A2, GST-tag	60090	TRKB, GST-tag	40281
SARM1, FLAG-Tag	100069	TRKC (G623E) Mutant, Active)	40204

Proteins	Catalog#
TRKC (G623R L686M),Mutant, Active	40215
TRKC (G623R) Mutant, Active)	40203
TRKC (L686M), Mutant, Active	40216
TRKC, GST-tag	40282
TTBK1, GST-Tag, His-Tag	40309

Vectors	Catalog#
ANPRA/Aequorin Expression vector	60641



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