NOVUS BIOLOGICALS ANTIBODIES FOR
NEUROSCIENCE
Making Your Success Our Goal

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- 46 species covered
- 42,000+ gene IDs covered

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G-Protein Coupled Receptors

G-protein coupled receptors (GPCRs) have been implicated as signal transducers in a wide variety of physiological processes including sensory systems where they bind opsins, odorants and tastants. GPCRs also affect behavior and mood regulation through interaction with an array of neurotransmitters, including serotonin and dopamine.

Purinergic Receptors

Purinergic receptors bind derivatives of the nucleotide adenosine. Purinergic receptors have been implicated in a wide array of biological processes including modulation of peripheral auditory and visual sensory systems.

### Related Antibodies

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<tr>
<th>Antibody</th>
<th>Description</th>
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<td>Adenosine A2a Receptor</td>
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<td>GPR17 Antibody NLS4229</td>
<td>Immuno-histochemical analysis of human brain using NBP1-39474.</td>
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<tr>
<td>Adenosine A2a Receptor (7F6-G5-A2) Antibody NBP1-39474</td>
<td>Spec: Hu, Mu, Rt, Ca, GP, Rb Applications: WB, FACS, IHC-P</td>
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<td>Alpha 2a Adrenergic Receptor Antibody NBP1-67832</td>
<td>Immuno-histochemical analysis of human testis tissue using NBP1-67832.</td>
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<tr>
<td>Calcium Sensing Receptor Antibody NBP1-84687</td>
<td>Immuno-histochemical analysis of human pancreas using NBP1-84687.</td>
</tr>
</tbody>
</table>

Calcium-Sensing Receptor

Calcium-sensing receptors (CaSRs) sense extracellular levels of calcium ions. The binding of calcium induces a conformational change in the receptor and triggers the phospholipase C pathway, ultimately increasing the intracellular concentration of calcium.
G-Protein Coupled Receptors

5-Hydroxytryptamine Receptors
5-hydroxytryptamine (5-HT) receptors, also known as serotonin receptors, are found in the central and peripheral nervous systems where they mediate neurotransmission and have been implicated in a wide array of biological and neurological processes including appetite, mood, nausea, sleep, and sexuality.

Related Antibodies

- 5HT1A
- 5HT1D
- 5HT1E
- 5HT1F
- 5HT2A
- 5HT2B
- 5HT2C
- 5HT5A
- 5HT6
- 5HTR7

5-HTR1A Antibody
NBP1-90321
Immuno-histochemical analysis of thymus, endothelial recticular cells using NBP1-90321.
Species: Hu
Applications: IHC-P

5-HTR2C Antibody
NBP1-90317
Immuno-histochemical analysis of human pancreas using NBP1-90317.
Species: Hu
Applications: WB, IF, IHC-P

Neuropeptide Receptors
Neuropeptides function as intracellular signaling molecules and affect gene expression, local blood flow, synaptogenesis and glial cell morphology. Neuropeptides are packaged in large, dense-core vesicles and are located on every part of a neuron, including the soma, dendrites, axonal swellings and nerve endings.

Related Antibodies

- GPR8
- GPR154
- Neurotensin Receptor 1
- Neurotensin Receptor 2
- NMBR
- NMUR1
- NMUR2
- NPFFR1
- NPFFR2
- NPBWR1
- NPYR5
- NTSR2

NMBR Antibody
NBP1-89520
Immuno-fluorescent analysis showing positivity in plasma membrane & cytoplasm using NBP1-89520.
Species: Hu
Applications: WB, IF, IHC-P

NMUR1 Antibody
NBP1-83433
Immuno-histochemical analysis of human duodenum using NBP1-83433.
Species: Hu
Applications: WB, IHC-P

Bombesin Receptors
This class of receptors is located largely in the central nervous system and the gastrointestinal tract. Bombesin receptors mediate the neurological anxiety response as well as smooth muscle contraction and eating behavior. These ligands have also been implicated in many neurodegenerative diseases.

Bombesin Receptor 3 Antibody
NB100-74372
Immuno-histochemical analysis of human pancreatic carcinoma tissue sections using NB100-74372.
Species: Hu
Applications: WB, IHC, IHC-P

Bombesin Receptor 3 Antibody
NLS4915
Immuno-histochemical analysis of placenta using NLS4915.
Species: Hu
Applications: IHC-P

GRPR Antibody
NB100-74434
Immuno-histochemical analysis of human mammary carcinoma tissue using NB100-74434.
Species: Hu
Applications: WB, IHC-P
Muscarinic Acetylcholine Receptors
Acetylcholine (ACh) is an abundant neurotransmitter, found in the central nervous system, autonomic preganglia and spinal motor neurons. There are two main subtypes of ACh receptors – nicotinic and muscarinic. Muscarinic receptors (mAChRs) are responsible for the post stimulation hyperpolarization and slow depolarization of the postganglionic neuron. mAChRs modulate an array of physiological functions, including smooth muscle contractions, heart rate, and glandular secretions.

Muscarinic Acetylcholine Receptor 2
Antibody
NBP1-86351
Immuno-histochemical analysis of human kidney using NBP1-86351.
Species: Hu
Applications: IHC-P

Muscarinic Acetylcholine Receptor M4
Antibody
NBP1-70994
Immuno-fluorescent analysis of LOVO cells using NBP1-70994.
Species: Hu, Mu, Rt
Applications: ELISA, IF

Tuftelin 1 Antibody Antibody
NBP1-87446
Immuno-histochemical analysis of human duodenum using NBP1-87446.
Species: Hu
Applications: WB, IHC-P

Dopamine Receptors
Many neurological responses are modulated by dopamine signaling. There are two families of dopamine receptors: the D1-like family (D1 and D5) and the D2-like family (D2 through D4). Activation of receptors in the D1-like family activates adenyl cyclase, increasing the intracellular concentration of cAMP. Conversely, activation of receptors in the D2-like family inhibits the formation of cAMP by inhibiting adenylate cyclase.

Customer Review
★ ★ ★ ★
Dopamine Receptor D1 Antibody
(SG2-D1a)(NB110-60017)
Application: IHC-Fr
Sample Tested: Rat retinal whole mounts and sections
Species: Rat
Lot: A1

Dopamine Receptor D1 Antibody
NLS44
Immuno-histochemical analysis of Kidney, Proximal & distal convoluted tubules using NLS44.
Species: Hu
Applications: ICC, IHC-P

Dopamine Receptor D1 Antibody
NBP1-87577
Immuno-histochemical analysis of human skin using NBP1-87577.
Species: Hu
Applications: IHC-P

GABA-B Receptors
GABA-B receptors are inhibitory receptors found in the central and peripheral autonomic nervous systems. Ligand binding triggers a signaling cascade that ultimately inhibits neurotransmitter release. GABA-B receptors may play important roles in the development and sensation of pain.

GABA B Receptor 1 Antibody
NBP1-52389
Immuno-histochemical analysis of human brain cortex using NBP1-52389.
Species: Hu, Mu, Rt, Bv, Ca
Applications: IHC-P

GABA B Receptor 1 Antibody
NBP1-19356
Immuno-histochemical analysis of human brain tissue using NBP1-19356.
Species: Hu
Applications: IHC-P

GABA B Receptor 2 Antibody
NBP1-89803
Immuno-histochemical analysis of human duodenum using NBP1-89803.
Species: Hu
Applications: IHC-P
G-Protein Coupled Receptors

Cannabinoid Receptors
Cannabinoids are a group of terpenophenolic compounds present in the nervous and immune systems. There are two defined types of cannabinoid receptors, designated CB1 and CB2. CB1 receptors are considered the most widely expressed GPCRs in the brain.

Histamine Receptors
Histamine is a biogenic amine that is involved in local immune responses, digestive regulation and neurotransmission.

Vasopressin Receptors
Vasopressin, also known as arginine vasopressin (AVP) or antidiuretic hormone (ADH), is a peptide hormone responsible for regulating the body’s retention of water, as well as a variety of neurological effects.

Somatostatin Receptors
Somatostatin is a peptide hormone that interacts with G-protein coupled somatostatin receptors. Somatostatin is an inhibitory hormone that functions in regulation of the endocrine system, neurotransmission and cell proliferation.
G-Protein Coupled Receptors

Latrophilin Receptors
Latrophilin receptors are brain-specific, calcium-independent orphan GPCRs of the secretin family. Latrophilin-1 and latrophilin-2 bind alpha-latrotoxin, a potent pre-synaptic neurotoxin present in the venom of black widow spiders.

LPHN1 Antibody
NBP1-71099

Immuno-fluorescent analysis of LOVO cells using NBP1-71099.
Species: Hu, Mu, Rt
Applications: ELISA, IF

LPHN2 Antibody
NBP1-71100

Immuno-histochemical analysis of human breast carcinoma tissue using NBP1-71100.
Species: Hu, Mu, Rt
Applications: ELISA, IF, IHC

LPHN3 Antibody
NLS1138

Immuno-histochemical analysis of brain, neurons and glia using NLS1138.
Species: Hu
Applications: IHC-P

Brain-Specific Angiogenesis Inhibitors
Brain-specific angiogenesis inhibitors (BAIs) are orphan GPCRs with unknown ligands. There are three BAI genes, which have similar tissue specificities and structures. BAI expression has been reported primarily in the brain.

Customer Reviews

BAI1 Antibody (NBP1-00723)
Application: IF
Sample Tested: THP1 cell line
Species: Human

BAI1 Antibody
NB110-81586

Immuno-histochemical analysis of mouse brain using NB110-81536.
Species: Hu, Mu
Applications: IHC-P

BAI3 Antibody
NB1-82996

Immuno-histochemical analysis of human duodenum using NB1-82996.
Species: Hu
Applications: IHC-P

GHRH Receptor
Growth hormone releasing hormone receptor (GHRHR), stimulates growth hormone (GH) secretion and synthesis in the pituitary gland. Mutations in GHRHR can cause either GH deficiency, resulting in dwarfism, or excessive production of GH, leading to gigantism. GHRHR is primarily expressed in the brain.

GHRHR Antibody
NB100-74424

Immuno-histochemical analysis in human ovarian carcinoma samples using NB100-74424.
Species: Hu
Applications: WB, ICC, IHC, IHC-P

Parathyroid Hormone Receptors
Parathyroid hormone receptors (PTHRs) bind parathyroid hormone (PTH), parathyroid hormone-related peptide (PTHRP), and tuberoinfundibular peptide 39. PTHR2 has only been identified in the brain. Due to its neuronal localization, PTHR2 is thought to function as a neurotransmitter receptor.

Parathyroid Hormone Receptor 1 Antibody (4D2)
NBP1-51640

Immuno-fluorescent analysis of SK-BR-3 cells using PTH1R mouse mAb (green) using NBP1-51640.
Species: Hu
Applications: WB, ELISA, IF, IHC-P

Parathyroid Hormone Receptor 2 Antibody
NLS250

Immuno-histochemical analysis of brain, neurons and glia using NLS250.
Species: Hu
Applications: IHC-P
**Signal Transduction**

**Channels**
Channels are especially important in transmitting signals from sensory organs to the brain. Channels act both as receptors that transfer signals and as openings in the plasma membrane to allow chemicals such as potassium and calcium to move into and out of a cell.

**Cav1.2 Antibody**
NBP1-42817
- Immuno-cytochemical analysis in mouse 3T3 fibroblasts using NBP1-42817.
- Species: Hu, Mu, Rt, Bv, Ca, Rb
- Applications: WB, ICC, IF, IP

**KCNH1 Antibody**
NBP1-42816
- Western blot analysis in HEK cells using NBP1-42816.
- Species: Hu, Mu, Rt, Bv
- Applications: WB, ICC, IF, IP

**Kv1.2 Antibody**
NBP1-42802
- Immuno-cytochemical analysis in 293 human embryonic kidney cells using NBP1-42802.
- Species: Hu, Mu, Rt, Bv, Ca, Po, Xp, Ze
- Applications: WB, ICC

**TRPA1 Antibody**
NB110-40763
- Immuno-histochemical analysis of mouse intestine using NB110-40763.
- Species: Hu, Mu
- Applications: WB, IHC, IHC-P

**TRPM2 Antibody**
NB110-81601
- Immuno-cytochemical analysis of rat hippocampus using NB110-81601.
- Species: Mu, Rt
- Applications: WB, ICC, IF, IHC

**NMDA Receptors**
NMDA receptors are ionotropic glutamate receptors that regulate the opening and closing of ion channels that control the flux of Ca²⁺, K⁺, and Na⁺ into and out of cells. NMDA receptor interactions are crucial to proper cellular function and communication, especially in neurons. Malfunctioning NMDA receptors may be a crucial factor in Huntington’s Disease.

**NMDA receptor N1 Antibody**
NB300-114
- Western blot analysis of HEK 293 cells using NB300-114.
- Species: Hu, Mu, Rt
- Applications: WB, DB, IHC-Fr

**NMDAR1 Antibody**
NBP1-20085
- Immuno-histochemical analysis of human spinal cord tissue using NB1-20085.
- Species: Hu, Mu, Rt
- Applications: IHC-P

**NMDAR2B Antibody**
NBP2-12999
- Immuno-histochemical analysis of human brain tissue using NBP2-12999.
- Species: Hu
- Applications: IHC-P

**Customer Reviews**

**NMDAR1 Antibody (NB100-74473)**
- Application: IHC-Fr
- Sample Tested: Tissue sections of mouse brain
- Species: Mouse

**NMDAR1 Antibody (NB100-92192)**
- Application: IHC-P
- Sample Tested: Rat
- Species: Rat

**NMDAR2B Antibody (NB300-106)**
- Application: IF
- Sample Tested: Rat brain tissue
- Species: Other
- Other Species: Donkey anti-rabbit
Signaling Proteins

Signaling proteins facilitate the cellular implementation of messages received from other cells and organ systems, providing a transition between neurons and the cells that they affect.

Related Antibodies

- Calmodulin
- SNAP25
- Calreticulin
- Striatin
- RGS1
- Synaptotagmin

Calmodulin (2D1) Antibody NB120-2860

Immuno-fluorescent analysis in rat brain using NB120-2860.

Species: Rt, Bo, Bv, Ch
Applications: WB, ELISA, ICC, IF

Calreticulin Antibody NB600-101

Western blot analysis on human kidney lysate using NB600-101.

Species: Hu, Mu, Rt, Bv
Applications: WB, ICC, IF, IHC

Calreticulin (1G6A7) Antibody NB1P-47518

Immuno-fluorescent analysis of 3T3-L1 cells using NB1P-47518.

Species: Hu, Mu
Applications: WB, ELISA, IF

RGS1 Antibody NB1P-68645

Immuno-histochemical analysis of human colon carcinoma tissue using NB1P-68645.

Species: Hu, Mu, Rt
Applications: ELISA, IHC-P

SNAP25 Antibody NB1P-88769

Immuno-histochemical analysis of human cerebral cortex using NB1P-88769.

Species: Hu
Applications: WB, IHC-P

Striatin Antibody NB110-74571

Immuno-fluorescent analysis of NIH3T3 cells using NB110-74571.

Species: Hu, Mu, Rt
Applications: WB, IF, IP

Synaptotagmin 1 Antibody NB1P-61218

Immuno-histochemical analysis of human breast carcinoma tissue using NB1P-61218.

Species: Hu, Mu, Rt
Applications: WB, ELISA, IHC

Synaptotagmin 2 Antibody NB1P-90356

Immuno-histochemical analysis of human stomach using NB1P-90356.

Species: Hu
Applications: WB, IF, IHC-P

Product Citations


Chromatin modification and DNA-modifying enzymes have been shown to regulate various pathways in the development and function of the nervous system. Several areas of epigenetics control of neural activity actively studied include histone acetylation and DNA methylation in response to neutrotrophin signaling as well as how DNA methylation, histone modification and transcriptional feedback loops promote self-renewal and differentiation of adult neural stem cells. [PMID: 20975746]

**Related Antibodies**

- **alpha-Synuclein**
- **Amyloid beta Precursor Protein**
- **BACE1**
- **BDNF**
- **Beta Amyloid**
- **c-FOS**
- **Gamma-secretase**
- **GNAT**
- **Histone H3**
- **Histone H3 [Monomethyl Lys9]**
- **Histone H4**
- **Huntingtin**
- **MeCP2**
- **NfκB**
- **NRSF**
- **p21**
- **REST**
- **SETDB1**
- **SMCX**

**Histone Acetyltransferase Antibodies**

- **AIB1**
- **CLOCK**
- **ELP3**
- **KAT1**
- **KAT2A**
- **KAT3A/CBP**
- **KAT3B/p300**
- **KAT6B-MORF**
- **MYST1**
- **MYST3**
- **NCOA2**
- **PCAF**
- **SRC1**
- **TAF1**
- **TIP60**

**Customer Reviews**

**FOS Antibody (NB100-91772)**
- **Application:** IHC
- **Sample Tested:** Mouse
- **Sample Pretreatment:** Citrate buffer
- **Species:** Mouse

**Histone H3 Antibody (NB500-267)**
- **Application:** Western blot
- **Sample Tested:** HeLa cell lysates
- **Sample Pretreatment:** 50 ug
- **Species:** Rat

**MeCP2 Antibody (NB600-1101)**
- **Application:** Western blot
- **Sample Tested:** IPS (Induced pluripotent stem cells derived from AFMSC)
- **Sample Pretreatment:** Lysis buffer
- **Species:** Human

**Histone H3 [Dimethyl Lys9] Antibody**
- **Application:** Western blot
- **Sample Tested:** H3K9me2
- **Sample Pretreatment:** 2 ug of NB21-1202.
- **Species:** Hu, Mu, Ce

**Histone H3 [Sym-dimethyl Arg2, Dimethyl Lys4] Antibody**
- **Application:** Western blot
- **Sample Tested:** 1 million formaldehyde cross-linked Hela cells was used with 2 ug of NB21-1202.
- **Species:** Hu, Mu, Ce

**CLOCK Antibody**
- **Application:** Western blot
- **Sample Tested:** alpha CLOCK immunoprecipitated DNA using NB100-126.
- **Species:** Hu, Mu

**KAT3A/CBP Antibody (NB100-381)**
- **Application:** IP
- **Sample Tested:** HeLa cell lysates
- **Species:** Human

**TIP60 Antibody**
- **Application:** Western blot
- **Sample Tested:** p300 in a HeLa nuclear extract using NB100-507.
- **Species:** Hu, Mu, Rt, Mk

Visit www.novusbio.com for complete product listings.
Histone Deacetylase Antibodies

- HDAC1
- HDAC2
- HDAC3
- HDAC4
- HDAC5
- HDAC6
- HDAC7
- HDAC8
- HDAC9
- HDAC10

- HDAC11
- Sir2.1
- SIRT1
- SIRT2
- SIRT3
- SIRT4
- SIRT5
- SIRT6
- SIRT7

Novus offers our Epi-Plus™ antibodies for modified histones. All Epi-Plus™ antibodies are multi-assay validated, including testing by dot blots using modified peptide arrays, western blots, and chromatin immunoprecipitation (ChIP).

Learn more at www.novusbio.com/epi-plus.html

Product Citations


Neurogenesis and Gliogenesis

Neurogenesis is the formation of new neuronal cells. Once thought only to occur in developing organisms, recent studies have shown that neurogeneis occurs through an organism’s lifespan and plays a crucial role in neuron plasticity. Gliogeneity is the formation of non-neuronal glia population. Glia cells function to support neural cells by providing physical structure and insulation, supplying nutrients and destroying pathogens. The Notch signaling pathway plays a major regulatory role in both events which are also affected by the Wnt and SHH pathways. Disruption of these processes has been implicated in several neurodegenerative diseases including Parkinson’s and Multiple Sclerosis.

Overview of the Notch Signaling Pathway

Related Antibodies

- AKT
- alpha Catenin
- Axin 1, 2
- beta Catenin
- CCL12
- CCL2
- CNTF
- CSPG4P5
- Delta 1, 3, 4
- Dishevelled
- EGF
- Eotaxin
- FGF
- GABA
- gamma-Secretase
- GFAP
- Glutamate Receptor 5
- HIP1
- IGF1
- IGF1 Receptor
- Jagged 1, 2
- JAK 1, 2, 3
- LRP2
- LRP5/6
- MASH1
- Neurogenin 1
- NMDA
- Notch1
- NRG1
- NUMB
- OLIG2
- PACAP Receptor
- Sonic Hedgehog
- SS18L1
- Stat 1–6
- TGF alpha
- VIP
- Wnt

Customer Reviews

PPAR delta Antibody (NB600-637)
Application: IHC-P
Sample Tested: Gerbil stomach
Species: Gerbil

AKT1 Antibody (NB600-467)
Application: Western blot
Sample Tested: Mouse spleen lysate
Species: Mouse

FGFR1 Antibody (M19B2) (NB600-1287)
Application: FACS
Sample Tested: Transfected cell line
Species: Rat

Notch 1 Antibody
NBP1-78292
Immuno-histochemical analysis in human kidney using NBP1-78292.
Species: Hu, Mu
Applications: WB, IHC-P
**Western blot analysis in** 1. HepG2, 2. MCF7, and 3. Cos7 whole cell lysates using NBP1-54467.

**Species:** Hu, Mu, Rt, Ch, Mk  
**Applications:** WB, ICC, IF, IHC-P, IP

**beta Catenin Antibody (12F7) Antibody NBP1-54467**

**Immuno-histochemical analysis of human brain tissue using NBP1-68600.**

**Species:** Hu, Mu  
**Applications:** ELISA, IHC

**Dishevelled 3 Antibody NBP1-68660**

**Immuno-histochemical analysis of prostate tissue using NBP1-47871.**

**Species:** Hu, Mu, Rt, Mk  
**Applications:** WB, ELISA, IF, IHC-P

**Neurogenin 1 (3F9) Antibody NBP1-47871**

**Immuno-cytological analysis in A431 cells with FITC (green) using NBP1-77679.**

**Species:** Hu, Mu, Rt, Mk  
**Applications:** WB, ICC, IF, IHC-P

**IGF1 Receptor Antibody NBP1-77679**

**Immuno-fluorescent analysis of human corneal epithelial cells using NB600-1161.**

**Species:** Hu, Mu, Rt  
**Applications:** WB, ELISA, IF, IHC-P

**Numb Antibody NB500-178**

**Immuno-histochemical analysis of chicken embryos using NBP1-69270.**

**Species:** Hu, Mu, Rt, Ca, Ch, Xp, Ze  
**Applications:** WB, IHC-P

**Sonic Hedgehog Antibody NB500-69270**

**Immuno-cytological analysis of A431 cells with FITC (green) using NB601-77679.**

**Species:** Hu, Mu, Rt  
**Applications:** WB, ICC, IF, IHC-P

**Wnt1 (10C8) Antibody NB500-51575**

**Immuno-histochemical analysis of 3T3-L1 cells using NBP1-69270.**

**Species:** Hu, Mu, Rt, Ca, Ch, Xp, Ze  
**Applications:** WB, ELISA, FACS, IF, IHC-P

**Product Citations**


Axons are the part of a neuronal cell that carries signals away from the soma. For a given neuronal cell type, axons may vary greatly and undergo extensive branching. Axonal growth is stimulated by a variety of neurotrophic growth factors (NTFs) and also regulated by Src family kinases (SFKs). [PMID: 17646673] Guidepost cells assist in axon growth and play a role in neuroregeneration, in which damaged axons regenerate synaptic connections with other neurons. Under normal physiological conditions, “axon-pruning” occurs as a mechanism to maintain connectivity and plasticity and also to repair damaged axons. [PMID: 16022592] Axon loss contributes to neurological symptoms in disorders including multiple sclerosis, stroke and chronic neurodegenerative diseases. [PMID: 12220882]

**Related Antibodies**

- alpha 2 Mannosidase 2A
- BDNF
- BLK
- ChABC
- F-actin
- FGR
- FRK
- Fyn
- GDNF
- GFAP
- Gigaxonin
- GNB5
- Hck
- Laminin
- Lck
- Lyn
- Mitofusin 1, 2
- Myelin Protein Zero
- Netrin 1
- Netrin-G1 Ligand
- Neurotrophin 3
- Neurotrophin 4
- Neurturin
- NGF
- p75NTR
- PMP22
- Src
- TDP1
- TNF alpha
- TrkA
- TrkB
- TrkC
- Yes1

**ChABC (6A12) Antibody**

- **Species:** NA
- **Applications:** WB, ELISA
- **Sample Tested:**
  - Western blot analysis of Chondroitinase ABC using NB19-96141.

**Mitofusin-1 Antibody**

- **Species:** Hu, Mu
- **Applications:** ICC, IF, IHC-P
- **Sample Tested:** Immuno-histochemical analysis of mouse intestine using NB19-51841.

**GFAP Antibody**

- **Species:** Hu, Mu, Rt, Bv, Fe, Po
- **Applications:** WB, ICC, IF, IHC-Fr, IHC-P
- **Sample Tested:** Immuno-fluorescent analysis of mixed neuron glial cultures using NB300-141.

**PMP22 (Hu1) Antibody**

- **Species:** Hu, Mu, Rt
- **Applications:** WB, ICC, IF, IHC-Fr, IHC-P
- **Sample Tested:** Immuno-histochemical analysis in dorsal root ganglion and spinal roots in 20 week fetal spinal cord using NB110-59086.

**Laminin Antibody**

- **Species:** Hu, Mu, Rt
- **Applications:** WB, ICC, IHC-Fr, IHC-P
- **Sample Tested:** Immuno-cytohemical analysis in Hela cells (green) using NB300-144.

**Src [p Tyr418] Antibody**

- **Species:** Hu, Mu, Rt
- **Applications:** WB, WB, ELISA, IHC-P
- **Sample Tested:** Immuno-histochemical analysis human colon using NBP1-60970.

**Customer Reviews**

- **BLK Antibody (7A12) (H00000640-M02)**
  - **Application:** Western blot
  - **Sample Tested:** Recombinant (r) BLK, Ramos whole cell lysate, Jurkat whole cell lysate
  - **Species:** Human

- **Laminin Antibody (NB300-144)**
  - **Application:** IHC-Fr
  - **Sample Pretreated:** Doxorubicin
  - **Species:** Rat

- **Src [p Tyr418] Antibody (NB100-92633)**
  - **Application:** IF
  - **Sample Tested:** Rat
  - **Species:** Rat
Sensory Systems: Auditory & Olfactory

Auditory
Hearing is a complex interaction between many structures of the ear that amplify sound vibrations, convert vibrations into electrical signals, and then carry those signals to the brain. Neurotransmitters convey signals from the hair cells of the inner ear to auditory neurons. The encoded message travels through multiple areas of the brain until it is relayed to the primary auditory cortex via the temporal lobe. Defects in certain hearing related proteins have been associated with hearing loss; these proteins include Tubby, Myosin 1C and proteins associated with Waardenburg syndrome (PAX3, MITF, EDNRB, EDN3 and SOX10.)

Related Antibodies
- ARC
- Connexin 26
- Endothelin
- Endothelin 3
- MiTF
- Myosin 1C
- PAX3
- Tubby
- TULP1
- TULP2
- TULP3
- TULP4

Myosin 1C Antibody
NBP1-87745
Western blot analysis of tub-1 (GFP complex) using NBP1-87745.
Species: Hu
Applications: WB, IHC-P

Tubby Antibody
NB100-1922
Species: Ce
Applications: WB, IHC-P, IP

Olfactory
The initial olfactory signal is initiated when an odorant molecule binds to an olfactory receptor which triggers the activation of a G-protein signal cascade. Olfactory receptors are GPCRs similar to those known to be important in neurotransmission and photoreception; there are as many as 1,000 genes for ORs in the mammalian genome. [PMID: 17903277]

Related Antibodies
- Adenylyl Cyclase 3
- Cyclic AMP
- F-Actin
- GABA A Receptor alpha 1
- MAP2
- NKCC1
- Phospholipase C beta 2
- TRPC6

Adenylate Cyclase 3 Antibody
NBP1-92683
Immuno-fluorescent analysis of Mixed neuron-glial cultures using NBP1-92683.
Species: Hu, Rt
Applications: WB, IF

MAP2 Antibody
NB300-213
Immuno-cytological analysis of mixed neuron/glial cultures using NB300-213.
Species: Hu, Mu, Rt, Bv
Applications: WB, IF, Bv

Product Citations


Novus offers hundreds of antibodies for ORs. Visit www.novusbio.com and search on your gene of interest to find related products.
Vision
Vision is a complex process involving interactions between the surface and lens of the eye, the retina and neural receptors and the processing by the brain of information collected from the eyes. Because there are many processes involved in eyesight, a wide range of genes are involved in the processes of collecting, relaying, and processing visual signals. Likewise, mutations to any of these genes can cause problems in a variety of areas including ocular development, retinal development or degeneration, or signal transmission to the brain.

Related Antibodies

- 3-OHKYN
- Adenosine A1 Receptor
- Adenylate Cyclase 6
- ALDH1A3
- APXL
- Arrestin 3 Retinal
- BBS10
- Bestrophin
- betaTrCP
- BMAL1
- CACNA2D4
- Calnexin
- CaMK1
- Cannabinoid Receptor II
- CD147
- CEP290
- Ceramide Kinase Like
- CHX10
- clarin 1
- CLOCK
- CNNM4
- Crystallin AB
- Cytokeratin 3/12
- Dock5
- EFEMP1
- ELAVL2
- EYA3
- EYA4
- FOXE3
- GDF6
- Glutamate Receptor 1
- Glutamate receptor 2
- Glutamate receptor 2/3
- Glutamine Synthetase
- Homeobox protein SIX6
- IMPG2
- LRP5/6
- Melanopsin
- MERTK
- Metabotropic Glutamate Receptor
- mGluR1
- mGluR6/7
- Mucolipin 1
- Ndufs1
- NIR2
- OPA1
- Opsin 1 (Medium Wave)
- Opsin 3
- Otx2
- OTX3
- PAX6
- PDE6A
- PER1
- Peropsin
- PROX1
- PRPF3
- PRPF8
- Retinoic Acid Receptor alpha
- Retinoic Acid Receptor beta
- RGR
- Rhodopsin
- RIT1
- RPE65
- S Opsin
- S-arrestin
- SHH
- SNAP25
- SOX2
- Syntrophin
- Syntrophin alpha 1
- Transducin alpha
- Transducin beta
- TULP1
- WDR36
- WFS1

Customer Reviews

** Stars
Mucolipin 1 Antibody (NB110-82375)
Application: Western blot
Sample Tested: HEK lysate overexpressing mcoln1

** Stars
OPA1 Antibody (NB110-55290)
Application: Western blot
Sample Tested: COS-1 cell

** Stars
SOX2 Antibody (NB110-37235)
Application: Western blot
Sample Tested: Oral cancer cell line
Species: Human
Western blot analysis in A549 cell lysate using NB100-2911.

Ceramide Kinase Antibody

Western blot analysis in modified BSA using NB100-597.

**3-OHKYN (P3UI) Antibody NB100-597**

Species: Hu, All
Applications: WB, ICC

Calnexin Antibody NB100-1974

Immunohistochemical analysis in mouse bladder using NB100-1974.

**Calnexin Antibody NB100-1974**

Species: Hu, Mu
Applications: WB, ICC, IF, IHC-P, IP

Ceramide Kinase Antibody NB100-2911

Western blot analysis in AS49 cell lysate using NB100-2911.

**Metabotropic Glutamate Receptor 6 Antibody NB300-189**

Immunofluorescent analysis in trapezoid body in mouse brain using NB300-189.

**Crystallin AB Antibody NB100-2520**

Western blot of Lane 1: human skeletal muscle and Lane 2: mouse skeletal muscle proteins using NB100-2520.

**Crystallin AB Antibody NB100-2520**

Species: Hu, Mu
Applications: WB

Western blot in mouse brain lysates using NB110-82375.

**Mucolipin 1 Antibody NB110-82375**

Species: Hu, Mu, Rt
Applications: WB

OPA1 Antibody NB110-55290

Immunohistochemical analysis in prostatic smooth muscle using NB110-55290.

**OPA1 Antibody NB110-55290**

Species: Hu, Mu, Rt, Ch, Mk, Ze
Applications: WB, IHC

RPE65 (401.8B11.3D9) Antibody NB100-355

Immunohistochemical analysis in mouse retina tissue using NB100-355.

**RPE65 (401.8B11.3D9) Antibody NB100-355**

Species: Hu, Mu, Bv, Po
Applications: WB, ICC, IF, IHC, IHC-Fr

**Product Citations**


CNS Control of Metabolism

Circadian Rhythms
Sleep cycles are regulated through both circadian and homeostatic processes. The biological clock genes are well conserved across species. Circadian rhythms are thought to be controlled by the interactions of a relatively small set of proteins. Gene variations and genetic defects in these proteins can lead to sleep disorders and poor adaptations to the light-dark cycle. [PMID: 17299246]

Related Antibodies
- BMAL1
- Casein Kinase 1 delta
- CLOCK
- Cryptochrome 1
- CRY2
- PER2
- PER3
- Timeless

Food Intake
Food intake is controlled by a highly complex process. Compounds that affect food intake and that are critical for normal energy homeostasis are termed adiposity signaling molecules. Several neuropeptide and neurotransmitters have been identified as molecules that act through intermediaries as adiposity signals including Leptin, Insulin, Neuropeptide Y, Melanocortins, Noradrenaline, Dopamine, Serotonin. [PMID: 10766253]

Related Antibodies
- AGRP
- Alpha-MSH
- CARTPT
- Corticotropin Releasing Factor
- CRHBP
- Galanin
- GALP
- GalR1, 2, 3
- GLP1R
- IL1 beta
- Insulin
- Insulin Receptor
- Insulin Receptor beta
- IR-related receptor
- Leptin
- Leptin Receptor
- MCHR
- MCHR1
- MCHR2
- MRAP2
- Neuropeptide Y
- Neurotensin
- Neurotensin Receptors 1, 2
- Noradrenaline transporter
- NPY1R
- NPY2R
- NPY4R
- NPY5R
- Orexin
- Orexin A
- Orexin Receptors 1, 1/2, 2
- Oxytocin
- Oxytocin Receptor
- Serotonin
- Thyrotropin Releasing Hormone
- Urocortin

GLP1R Antibody
NBP1-97308
Immuno-histochemical analysis in mouse pancreas using NBP1-97308.

Species: Hu, Mu
Applications: WB, ICC, IF, IHC-P

Insulin Receptor [p Tyr1361] Antibody
NBP1-51404
Immuno-histochemical analysis in human breast carcinoma tissue using NBP1-51404.

Species: Hu, Mu, Rt
Applications: WB, IHC-P

Neuropeptide Y Antibody
NBP1-78352
Immuno-histochemical analysis in the rat central nervous system using NBP1-78352.

Species: Hu, Mu, Rt, Am, Av, Fe, Fi, GP, Other, Ze
Applications: ICC, IHC-Fr, IHC-P
Alzheimer’s Disease

Alzheimer’s Disease (AD) is a progressive neurodegenerative condition that affects mental capacity, especially memory and behavior. AD is characterized by two key abnormalities: amyloid plaques and neurofibrillary tangles. Apolipoprotein E (ApoE) is a lipid transport protein that plays a central role in the pathogenesis of neurodegeneration in Alzheimer’s disease. [PMID: 14657206] There is also evidence linking Reelin with neurodegeneration through binding of ApoE receptors and as a mediator of Tau hyperphosphorylation. [PMID: 15583703]

Related Antibodies

- 160kDa Neurofilament Medium
- Amyloid beta precursor protein
- ApoE
- ApoE4
- ApoER2
- Presenilin 1
- Presenilin 2
- Reelin
- Tau

ApoE4 (4E4) Antibody
NB100-49529
Western blot analysis in concentrated supernatants of CHO cells using NB1-49529.
Species: Hu
Applications: WB, ELISA, IP

ApoER2 Antibody
NB100-2216
Western blot analysis on mouse brain membrane using NB100-2216.
Species: Hu, Mu, Ch
Applications: WB

GAPDH (2D4A7) Antibody
NB300-328
Immuno-cytocchemical analysis in HeLa cells using NB300-328.
Species: Hu, Mu
Applications: WB, ELISA, ICC, IF, IHC-P

Customer Reviews

GAPDH Antibody (1D4) NB300-221
Application: Western blot
Sample Tested: Human Hepatoblastoma
Species: Human
Additional Comments: The cultured cells were harvested, washed and lysed. Extracts were stored at -20C prior to analysis

GAPDH Antibody (NB300-322)
Application: Western blot
Sample Tested: PC3 Whole Cell Lysate
(Species: Human prostate cancer cell)

Product Citations


Parkinson’s disease is a motor system disorder that results from a loss of dopamine-producing neurons. Protein aggregates called Lewy bodies develop inside neural cells and displace other cellular contents. Symptoms of the disorder include trembling of the extremities and face, stiffness of movement and impaired balance and coordination. Several genes have been implicated in Parkinson’s disease. These include PARK2, PARK7, PINK1, LRRK2, SNCA, GBA, SNCAIP, and UCHL1. Mutations these genes have been linked to increased incidence of the disorder.

### Related Antibodies

<table>
<thead>
<tr>
<th>Antibody Name</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>alpha-Synuclein (24.8) [Nitrate Tyr123, Nitrate Tyr133] Antibody</td>
<td>WB, IHC-P</td>
</tr>
<tr>
<td>CASK</td>
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<tr>
<td>Caspase 1</td>
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<td>Caspase 8</td>
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<td>CD73</td>
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<td>Cullin 1</td>
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<td>Glutamate Dehydrogenase</td>
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**Hsp70 Antibody**

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**LRRK2 Antibody**

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**Park7(DJ-1) Antibody**

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</table>

**alpha-Synuclein (24.8) [Nitrate Tyr123, Nitrate Tyr133] Antibody**

Species: Hu

**Caspase 8 (FLICE 4-1-20) Antibody**

Species: Hu

**SIAH2 (24E6H3) Antibody**

Species: Hu, Dr, Po

**Tubulin (YL1/2) Antibody**

Species: Hu, Mu, Rt, Av, Ma, Ye

**UCHL1 Antibody**

Species: Hu, Mu, Rt, Bv, Eq, GP, Mk, Po
Customer Reviews

α-Tubulin (DM1A) Antibody
Application: Western blot
Sample Tested: Cell lysate
Species: Mouse

GBA Antibody (H00002629-B01P)
Application: IP
Sample Tested: Cell lysate
Species: Human

PINK1 Antibody (BC100-494)
Application: Western blot
Sample Tested: HeLa whole cell, mito extract
Sample Pretreatment: 20 ug
Sample Pretreatment: CCCP
Species: Human

Product Citations


[DARPP32 p Thr34 Antibody NBP1-60812] Sarantis K, Antoniou K, Matsokis N, Angelatou F. Exposure to novel environment is characterized by an interaction of D1/NMDA receptors underlined by phosphorylation of the NMDA and AMPA receptor subunits and activation of ERK1/2 signaling, leading to epigenetic changes and gene expression in rat hippocampus. Neurochemistry International. 2011 Nov 7. [PMID: 22080157]


Huntington’s Disease

Huntington’s disease (HD) is a neurodegenerative disorder caused by an expanding polyglutamine repeat in the huntingtin gene. HD is a mid-life onset autosomal dominant neurodegenerative disease that is characterized by psychiatric disorders, dementia, and involuntary movements (chorea), leading to death in 10-20 years. The HD gene product is widely expressed in human tissues, with the highest level of expression in the brain.

Related Antibodies

- BDNF
- Caspase 3
- Choline Acetyltransferase
- GM-CSF
- HIP1
- HOXA13
- Huntingtin
- LAMC2
- Somatostatin

Customer Reviews

Caspase 3 Antibody (CPP32 4-1-18) (NB500-210)
Application: Western Blot
Sample Tested: Human Hepatoblastoma
Additional comments: The cultured cells were harvested, washed and lysed. Extracts were stored at -20C prior to analysis
Species: Human

Caspase 3 Antibody (CPP32 4-1-18) (NB500-210)
Application: Western blot
Sample Tested: Human
Species: Human

Choline Acetyltransferase Antibody (NB100-1615)
Application: Immunohistochemistry-Paraffin
Sample Tested: Mouse brain
Species: Mouse
Additional comments: I recommend this product for any IHC-related stains.

Product Citations


**Multiple Sclerosis**

MS is an autoimmune disease caused by damage to the fatty myelin sheaths around the axons of the brain and spinal cord. Damage is caused by inflammation and results in nerve damage and slow or absent nerve signals. Susceptibility to MS is linked to genes in the Major Histocompatibility Complex and to T cell response. Disease activation biomarkers include interleukin-6, nitric oxide, nitric oxide synthase, osteopontin, and fetuin-A.

**Related Antibodies**

- CCL3
- CCL4
- CCR1
- CCR5
- CXCL9
- CXCL10
- CXCL11
- CXCR3
- Fetuin
- HLA
- IL-6
- NOA1
- Osteopontin
- TNF alpha
- TNF beta
- IL6
- NOA1
- Osteopontin
- TNF alpha
- TNF beta
- CCL3
- CCL4
- CCR1
- CCR5
- CXCL9
- CXCL10
- CXCL11
- CXCR3
- Fetuin
- HLA
- IL-6
- NOA1
- Osteopontin
- TNF alpha
- TNF beta
- IL6
- NOA1
- Osteopontin
- TNF alpha
- TNF beta

**Osteopontin (1B20) Antibody**

Immuno-histochemical analysis on human tonsil using NB100-702.

**IL6 (6D9A1,AC12B1) Antibody**

Immuno-histochemical analysis of lung cancer tumor using NB1-47355.

**Stroke, Epilepsy & Traumatic Brain Injury**

Ischemic episodes, TBI and epilepsy typically result in necrotic cell death at the injury site as well as programmed cell death that is controlled via apoptotic cascades in the injured area. Specifically, the mitochondrial-mediated apoptotic pathways as well as the PI3K/AKT pathway have been implicated in cell death after brain trauma. New research aims to reduce apoptosis of cells in the penumbral region after brain injury as means of preserving greater neuronal function. [PMIDs: 12684068 & 15662830]

**Related Antibodies**

- AIF
- CARD
- DEDD
- FADD
- Fas Ligand
- JNK
- MAPK
- MEK2
- MEKK4
- MMP9
- RAIDD
- RIP1
- TRADD

**CARD12 Antibody**

Immuno-cytochemical analysis in HepG2 cells with FITC (green) using NB1-78979.

**Fas Ligand (NOK-1) Antibody**

Flow cytometric analysis of transfected cells stained with purified NOK-1 using NB100-77833.

**JNK1 Antibody**

Western blot analysis in JNK-1 overexpression lysates using NB100-1925.

**MAP2K1IP1/MAPKSP1 Antibody**

Immuno-histochemical analysis in mouse lung using NB1-50631.
Neuronal Markers

Novus offers a complete line of neuronal marker antibodies that have been validated across multiple applications and species.

<table>
<thead>
<tr>
<th>Cell Type</th>
<th>Antibody</th>
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</thead>
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<tr>
<td>Astrocyte</td>
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Customer Reviews

⭐⭐⭐⭐⭐
**SLC1A3 Antibody (NBP1-20135)**
*Application:* Western blot
*Sample Tested:* RCC4 Whole cell lysate

⭐⭐⭐⭐⭐
**Survivin [p Thr34] Antibody (NB500-236)**
*Application:* Western blot
*Sample Tested:* Cancer cells
*Species:* Mouse

⭐⭐⭐⭐⭐
**Tubulin Beta 3 Antibody (NB600-1018)**
*Application:* ICC
*Sample Tested:* Mouse Differentiated Neural Cell

⭐⭐⭐⭐⭐
**ABCA1 Antibody (3A1.891.3) (NB400-164)**
*Application:* Western blot
*Sample Tested:* Brain microvessel total proteins
*Species:* Mouse

⭐⭐⭐⭐⭐
**c-Fos Antibody (NB100-91772)**
*Application:* IHC
*Sample Tested:* Mouse
*Sample Pretreatment:* Citrate buffer

⭐⭐⭐⭐⭐
**Ki67 Antibody (NB110-89717)**
*Application:* FACS
*Sample Tested:* Mouse bone marrow cells

⭐⭐⭐⭐⭐
**Ki67 Antibody (NB500-170)**
*Application:* Western blot
*Sample Tested:* Whole cell lysate
*Species:* Mouse

⭐⭐⭐⭐⭐
**ABCA1 Antibody (NB400-105)**
*Application:* Western bBlot
*Sample Tested:* Mouse
*Species:* Mouse

⭐⭐⭐⭐⭐
**Survivin Antibody (NB500-201)**
*Application:* Western blot
*Sample Tested:* Oswald 1771 Abrams D17 Cancer Cell Lines
*Sample Pretreatment:* 7-15 ug

Visit www.novusbio.com for complete product listings.
Product Citations


Antibody Support Products

Novus offers a variety of products for use in conjunction with our Primary Antibodies. All support products are also of the highest quality and are backed by our Novus Guarantee, no hassles, no nonsense.

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Western Blot Protocol

Immunocytochemistry Protocol

Chromatin Immunoprecipitation Protocol

Live Chat

Novus Explorer

This free bioinformatics tool is designed to facilitate scientific exploration of related genes, diseases and pathways based on co-citations. For more information visit www.novusbio.com/explorer.
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