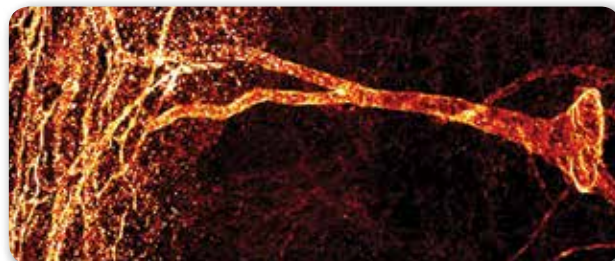


# ANTIBODIES FOR NEUROTRANSMITTERS & NEURORECEPTORS

Exchange of information between neurons is executed via release of neurotransmitters at the presynaptic nerve terminals. Neurotransmitters then move across the neuronal synapses for recognition by neuroreceptors, the membrane receptor proteins which gets activated by neurotransmitters. Besides regulating vital processes such as heart-beat, breathing, digestion, sensory system etc; neurotransmitters and neuroreceptors are also responsible for several other activities ranging from sleep cycles to mood changes. A fine balance between the duo is required for optimal functioning of the nervous system and the body as a whole. Accordingly, the analysis of neurotransmitter and neuroreceptor expression is very critical for physiological as well as pathological neuroscience experiments.



Confocal staining analysis of NKR1/Substance P Receptor expression on a lamina III neuron in the spinal cord of rat model using rabbit polyclonal Neurokinin 1 Receptor antibody [NB300-101].

Novus Biologicals offers a range of high quality antibodies against various neurotransmitters (small molecules, amino acids and neuropeptides) as well as various classes of neuroreceptors. Some of our most popular antibodies to these targets are:

## **Serotonin Antibody (5HT-H209)** **NB120-16007 (3 publications)**

**Species:** All species

**Applications:** ICC/IF, IHC-Fr, IHC-P



IHC analysis of a formalin fixed and paraffin embedded tissue section of rhesus macaque proximal colon.

## **GABA Antibody** **NB120-17413 (5 publications)**

**Species:** All Species

**Applications:** IHC-P, IHC-Fr, ELISA

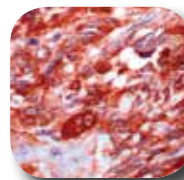


IHC analysis of a frozen section of adult mouse brain showing presence of GABA in the glial cells of cerebellar cortex.

## **Calcitonin Antibody (SP17)** **NBP2-26483 (4 publications)**

**Species:** Hu, Rt, Ca

**Applications:** IHC-P



IHC analysis of a formalin fixed and paraffin embedded section of human thyroid medullary carcinoma.

## **GABA-A R beta 3 Antibody** **NB300-199 (6 publications)**

**Species:** Hu, Mu, Rt

**Applications:** SW, WB, ICC/IF, IHC-Fr

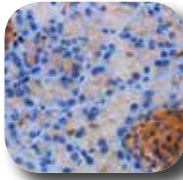


Simple Western analysis of human brain tissue lysate using a 12-230 kDa separation system.

## **Somatostatin Receptor 2 Antibody** **NB300-157 (6 publications)**

**Species:** Hu, Mu, Rt

**Applications:** WB, Flow, ICC/IF, IHC-Fr, IHC-P, IP



IHC staining of a formalin fixed and paraffin embedded mouse pancreas tissue section.

## **NK1R Antibody** **NB300-119 (27 publications)**

**Species:** Hu, Mu, Rt

**Applications:** WB, Flow, ICC/IF, IHC-P



WB analysis of brain tissue lysates from human (1), rat (2) and monkey (3) showing specific NK1R reactivity.

**1,000+ Novus antibodies are**  
**Simple Western Certified**

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# Most Popular Antibodies to Neurotransmitters

## Small Molecules

| Target        | Catalog                     | Clonality | Applications          | Species     |
|---------------|-----------------------------|-----------|-----------------------|-------------|
| Acetylcholine | <a href="#">NB100-64656</a> | Rb/Poly   | IHC-Fr, ELISA         | All Species |
| Dopamine      | <a href="#">NB100-1878</a>  | Rb/Poly   | ICC/IF, ELISA         | All Species |
| Dopamine      | <a href="#">NB110-2538</a>  | Mu/Mono   | ICC/IF                | All Species |
| Serotonin     | <a href="#">NB120-16007</a> | Mu/Mono   | ICC/IF, IHC-Fr, IHC-P | All Species |
| Serotonin     | <a href="#">NB100-65037</a> | Rt/Mono   | ICC/IF, IHC-Fr        | All Species |
| Serotonin     | <a href="#">NB100-62914</a> | Sh/Poly   | ELISA                 | All Species |
| Histamine     | <a href="#">NBP2-45266</a>  | Rb/Poly   | DB, IHC-P             | All Species |

## Amino Acids

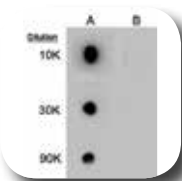
| Target    | Catalog                     | Clonality | Applications         | Species     |
|-----------|-----------------------------|-----------|----------------------|-------------|
| GABA      | <a href="#">NBP2-43558</a>  | Rb/Poly   | DB, IHC-Fr           | All Species |
| GABA      | <a href="#">NB120-17413</a> | Gp/Poly   | ELISA, IHC-P, IHC-Fr | All Species |
| Glycine   | <a href="#">NB600-1511</a>  | Rb/Poly   | IHC                  | All Species |
| Glutamate | <a href="#">NBP2-29884</a>  | Mu/Mono   | IHC                  | All Species |

## Neuroactive Peptides

| Target          | Catalog                       | Clonality | Applications                               | Species            |
|-----------------|-------------------------------|-----------|--------------------------------------------|--------------------|
| Bradykinin      | <a href="#">NB100-62405</a>   | Rb/Poly   | ELISA                                      | All Species        |
| Beta-endorphin  | <a href="#">NB120-10339</a>   | Rb/Poly   | ICC/IF, IHC-P                              | Hu                 |
| Beta-endorphin  | <a href="#">NB500-414</a>     | Mu/Mono   | IHC-Fr, IHC-P                              | Hu                 |
| Bombesin        | <a href="#">NBP1-87587</a>    | Rb/Poly   | WB, IHC-P                                  | Hu                 |
| Calcitonin      | <a href="#">NBP2-26483</a>    | Rb/Mono   | IHC-P                                      | Hu, Rt, Ca         |
| Calcitonin      | <a href="#">NBP1-30051</a>    | Mu/Mono   | ICC/IF                                     | Hu, Rt             |
| Calcitonin      | <a href="#">H00000796-M01</a> | Mu/Mono   | WB, ELISA                                  | Hu                 |
| Cholecystokinin | <a href="#">NBP1-19789</a>    | Rb/Poly   | WB, IHC-P                                  | Hu, Mu, Rt         |
| Cholecystokinin | <a href="#">NBP1-35641</a>    | Rb/Poly   | WB, IHC-P                                  | Hu                 |
| Dynorphin       | <a href="#">NBP1-31768</a>    | Rb/Poly   | WB, IHC-P                                  | Hu                 |
| Insulin         | <a href="#">NBP2-15195</a>    | Mu/Mono   | WB, ELISA, Flow, ICC/IF, IHC-Fr, IHC-P, IP | Hu, Po, Bv         |
| Insulin         | <a href="#">NB100-64697</a>   | Mu/Mono   | ELISA, IHC-Fr, IHC-P                       | Hu, Mu, Rt, Po, Bv |
| Insulin         | <a href="#">NBP1-87485</a>    | Rb/Poly   | WB, IHC-P                                  | Hu                 |
| Gastrin         | <a href="#">NBP1-67574</a>    | Rb/Poly   | WB, ELISA, ICC/IF, IHC-P                   | Hu, Mu, Rt         |
| Gastrin         | <a href="#">NB110-41549</a>   | Rb/Poly   | IHC-P                                      | Hu                 |
| Substance P     | <a href="#">NB300-187</a>     | Gp/Poly   | ICC/IF, IHC-Fr                             | Hu, Mu, Rt         |
| Substance P     | <a href="#">NB100-65219</a>   | Rt/Mono   | ICC/IF, IHC-Fr, IHC-P, IHC-WhMt            | Hu, Mu             |
| Neurotensin     | <a href="#">NBP2-33903</a>    | Rb/Poly   | IHC-P                                      | Hu                 |
| Glucagon        | <a href="#">NB100-91782</a>   | Rb/Poly   | WB, ICC/IF, IHC-Fr, IHC-P                  | Hu, Mu, Rt, Pm     |
| Somatostatin    | <a href="#">NBP2-37447</a>    | Mu/Mono   | WB, ELISA, Flow, IHC-P                     | Hu                 |
| Oxytocin        | <a href="#">NBP1-19753</a>    | Rb/Poly   | WB, ICC/IF, IHC-P                          | Hu, Mu, Rt         |
| Prolactin       | <a href="#">NBP1-36388</a>    | Rb/Poly   | IHC-P                                      | Hu                 |
| Neuropeptide Y  | <a href="#">NBP1-46535</a>    | Gt/Poly   | WB, IHC-Fr, IHC-P                          | Hu, Mu, Rt, Rb, Xp |

### GABA Antibody NBP2-43558

**Species:** All species  
**Applications:** DB, IHC-Fr



Dot Blot analysis of 100ng of GABA-conjugated BSA (A) and normal BSA (B) using GABA antibody at various dilutions.

### Calcitonin Antibody (4901) NBP1-30051 (1 publication)

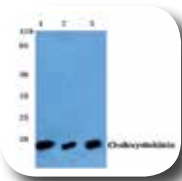
**Species:** Hu, Rt  
**Applications:** ICC/IF



ICC/IF analysis of Calcitonin (red) in cryopreserved DRG neurons. Green staining is UCHL-1 and yellow represents their colocalization.

### Cholecystokinin Antibody NBP1-19789

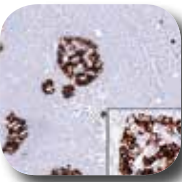
**Species:** Hu, Mu, Rt  
**Applications:** WB, IHC-P



WB analysis of lysates from HEK293T cells (1) mouse liver (2) and rat spleen (3) using cholecystokinin antibody.

### Insulin Antibody (2D11-H5) NBP2-15195 (4 publications)

**Species:** Hu, Po, Bv  
**Applications:** WB, ELISA, Flow, ICC/IF, IHC-Fr, IHC-P, IP



IHC-P analysis of a formalin-fixed human pancreas tissue section showing insulin staining in islets of Langerhaus.

### Substance P Antibody NB300-187 (6 publications)

**Species:** Hu, Mu, Rt  
**Applications:** ICC/IF, IHC-Fr



IHC-Fr analysis of rat spinal cord dorsal horn showing Substance P (red) expression.

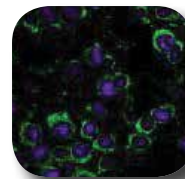
# Most Popular Antibodies to Neuroreceptors

| Target           | Catalog                     | Clonality | Applications                           | Species                    |
|------------------|-----------------------------|-----------|----------------------------------------|----------------------------|
| CHRNA1           | <a href="#">NBP1-07122</a>  | Rb/Poly   | WB, IHC-Fr, IHC-P                      | Hu, Mu, Rt                 |
| CHRNA7           | <a href="#">NBP1-52375</a>  | Gt/Poly   | ELISA, IHC-P                           | Hu, Mu, Rt, Bv, Ca         |
| CHRNA3           | <a href="#">NBP1-18793</a>  | Rb/Poly   | WB, ELISA, IHC-P                       | Hu, Mu, Rt, Ch             |
| CHRM2            | <a href="#">NBP1-78990</a>  | Rt/Mono   | IHC-Fr                                 | Hu, Mu, Rt, Pm             |
| CHRM4            | <a href="#">NBP1-70994</a>  | Rb/Poly   | ELISA, ICC/IF                          | Hu, Mu, Rt                 |
| CHRM1            | <a href="#">NBP1-87466</a>  | Rb/Poly   | ICC/IF, IHC-P                          | Hu, Rt                     |
| Dopamine D1 R    | <a href="#">NB110-60017</a> | Mu/Mono   | WB, ICC/IF, IHC-Fr                     | Mu, Rt                     |
| Dopamine D2 R    | <a href="#">NLS1403</a>     | Rb/Poly   | IHC-P                                  | Hu                         |
| DRD4             | <a href="#">NBP1-00779</a>  | Rb/Poly   | WB, ICC/IF, IHC-Fr, IHC-P              | Hu, Mu, Rt                 |
| DRD5             | <a href="#">NB110-60019</a> | Mu/Mono   | WB, ICC/IF, IHC                        | Mu, Rt                     |
| 5-HT1D           | <a href="#">NB100-56349</a> | Rb/Poly   | SW, WB                                 | Hu, Mu, Rt                 |
| 5-HT1B           | <a href="#">NB100-56350</a> | Rb/Poly   | WB                                     | Hu, Mu, Rt                 |
| 5-HT1A           | <a href="#">NBP2-21590</a>  | Rb/Poly   | WB                                     | Hu, Mu, Rt                 |
| 5-HT2C           | <a href="#">NB100-1524</a>  | Gt/Poly   | WB, PEP-ELISA                          | Hu                         |
| Histamine H1 R   | <a href="#">NBP1-89437</a>  | Rb/Poly   | ICC/IF, IHC-P                          | Hu                         |
| Histamine H2 R   | <a href="#">NBP1-86082</a>  | Rb/Poly   | IHC-P                                  | Hu                         |
| Histamine H3 R   | <a href="#">NBP1-00869</a>  | Rb/Poly   | WB, ICC/IF                             | Hu, Mu, Rt                 |
| GABA-A R alpha 1 | <a href="#">NB300-191</a>   | Rb/Poly   | WB, DB, ICC/IF, IP                     | Hu, Mu, Rt                 |
| GABA-A R beta 3  | <a href="#">NB300-199</a>   | Rb/Poly   | SW, WB, ICC/IF, IHC-Fr                 | Hu, Mu, Rt                 |
| GABA-A R gamma 2 | <a href="#">NB300-190</a>   | Rb/Poly   | WB, IHC-P                              | Hu, Mu, Rt                 |
| GABA-A R gamma 3 | <a href="#">NB100-56662</a> | Rb/Poly   | WB                                     | Hu, Mu, Rt                 |
| GABA-A R delta   | <a href="#">NB300-200</a>   | Rb/Poly   | WB, IHC-Fr, IP                         | Hu, Mu, Rt                 |
| mGluR6           | <a href="#">NB300-189</a>   | Rb/Poly   | WB, ICC/IF, IHC-Fr                     | Mu, Rt                     |
| mGluR1           | <a href="#">NLS882</a>      | Rb/Poly   | IHC-P                                  | Hu                         |
| mGluR2           | <a href="#">NBP1-68855</a>  | Gt/Poly   | WB, IHC-P, PEP-ELISA                   | Hu                         |
| mGluR7           | <a href="#">NLS917</a>      | Rb/Poly   | WB, IHC-P                              | Hu, Mu, Rt, Bv, Ca, Eq, Pm |
| GLRA1            | <a href="#">NB300-113</a>   | Rb/Poly   | WB, IHC-Fr                             | Hu, Mu, Rt                 |
| GRPR             | <a href="#">NB100-74434</a> | Rb/Poly   | WB, IHC-P                              | Hu                         |
| Calcitonin R     | <a href="#">NB600-697</a>   | Mu/Mono   | WB, ELISA, Flow, ICC/IF, IHC-Fr, IHC-P | Hu, Rb                     |
| CCK-A R          | <a href="#">NB100-2805</a>  | Gt/Poly   | WB, ICC/IF, IHC-P, PEP-ELISA           | Hu, Rt                     |
| Insulin R        | <a href="#">NBP1-51311</a>  | Rb/Poly   | WB                                     | Hu, Mu, Rt                 |
| INSR-beta        | <a href="#">NBP1-19192</a>  | Mu/Mono   | WB                                     | Hu, Mu, Rt, Po, Bv, Rb, Sh |
| CCKBR            | <a href="#">NB100-2803</a>  | Gt/Poly   | WB, ICC/IF, IHC-P, PEP-ELISA           | Hu, Rt                     |
| NK1R             | <a href="#">NB300-119</a>   | Rb/Poly   | WB, Flow, ICC/IF, IHC-P                | Hu, Mu, Rt                 |
| NK1R             | <a href="#">NB300-101</a>   | Rb/Poly   | WB, ICC/IF, IHC-Fr, IHC-P              | Hu, Mu, Rt, Gp             |
| NTSR2            | <a href="#">NB100-56472</a> | Rb/Poly   | WB, IHC-P                              | Hu, Mu                     |
| Glucagon R       | <a href="#">NBP1-00850</a>  | Rb/Poly   | WB, ICC/IF, IHC-Fr                     | Hu, Mu, Rt                 |
| Prolactin R      | <a href="#">NB300-561</a>   | Mu/Mono   | WB, Flow, ICC/IF, IHC-Fr, IHC-P, IP    | Hu, Rt, Po, Eq, Rb         |
| SSTR5            | <a href="#">NB100-56498</a> | Rb/Poly   | WB, IHC-P                              | Hu                         |

## Dopamine D1 R Antibody (SG2-D1A) NB110-60017 (3 publications)

**Species:** Mu, Rt

**Applications:** WB, ICC/IF, IHC-Fr



IHC analysis of a frozen section of rat retinal tissue showing DRD1 expression.

## GABA-A R alpha 1 Antibody NB300-191 (9 publications)

**Species:** Hu, Mu, Rt

**Applications:** WB, DB, ICC/IF, IP

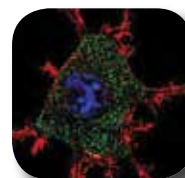


WB analysis of forebrain tissue lysates from wildtype rats (A) and alpha1-knockout rats (B).

## CHRNA4 Antibody NB120-2804 (3 Publications)

**Species:** Mu, Rt, Am, Ch, Fi

**Applications:** WB, ICC/IF, IHC-Fr, IHC-P, IP

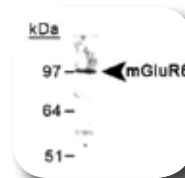


ICC/IF analysis of Neuro-2a cells using CHRNA4 antibody (green), Phalloidin staining for F-Actin (red) and DAPI for the nuclei (blue).

## mGluR6 Antibody NB300-189 (3 publications)

**Species:** Mu, Rt

**Applications:** WB, ICC/IF, IHC-Fr



WB analysis of mouse brain tissue lysate showing a specific mGluR6 band above 95kDa.

## Prolactin R Antibody (U5) NB300-561 (10 publications)

**Species:** Hu, Rt, Po, Eq, Rb

**Applications:** WB, Flow, ICC/IF, IHC-Fr, IHC-P, IP



IHC analysis of a formalin fixed paraffin embedded tissue section of lactating mare/equine mammary gland.

| Target | Catalog                     | Clonality | Applications                        | Species    |
|--------|-----------------------------|-----------|-------------------------------------|------------|
| OXTR   | <a href="#">NBP1-28487</a>  | Gt/Poly   | WB, ICC/IF, IHC-P, PEP-ELISA        | Hu, Rt     |
| NPY2R  | <a href="#">NB100-56480</a> | Rb/Poly   | WB, IHC-P                           | Hu, Pm     |
| NPY5R  | <a href="#">NB100-1538</a>  | Gt/Poly   | WB, IHC-P, PEP-ELISA                | Hu, Rt     |
| SSTR1  | <a href="#">NBP2-27413</a>  | Rb/Poly   | WB                                  | Hu, Mu, Rt |
| SSTR2  | <a href="#">NB300-157</a>   | Rb/Poly   | WB, Flow, ICC/IF, IHC-Fr, IHC-P, IP | Hu, Mu, Rt |
| SSTR3  | <a href="#">NB100-74538</a> | Rb/Poly   | WB, ICC/IF, IHC-P                   | Hu         |

### OXTR Antibody NBP1-28487 (1 Publication)

**Species:** Hu, Rt

**Applications:** WB, ICC/IF, IHC-P, PEP-ELISA



ICC/IF analysis of cultured human prostate stromal cells using OXTR antibody.

**Species Key:** Bv (Bovine), Ca (Canine), Ch (Chicken), Eq (Equine), Fi (Fish), Gp (Guinea Pig), Gt (Goat), Hu (Human), Mu (Mouse), Pm (Non-human Primates), Po (Porcine), Rb (Rabbit), Rt (Rat), Sh (Sheep), Xp (Xenopus)

**Applications Key:** DB (Dot Blot), ELISA (ELISA Capture and/or Detection), Flow (Flow Cytometry), ICC/IF (Immunocytochemistry/Immunofluorescence), IHC-Fr (Immunohistochemistry-Frozen), IHC-FrFI (Immunohistochemistry-Free Floating), IHC-P (Immunohistochemistry-Paraffin), IP (Immunoprecipitation), PEP-ELISA (Peptide ELISA), SW (Simple Western), WB (Western blot)

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