

NGF receptor p75

Cat.No. 396 005; Polyclonal Guinea pig antibody, 50 µg specific antibody (lyophilized)

Data Sheet

Reconstitution/ Storage	50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For reconstitution add 50 µl H ₂ O to get a 1mg/ml solution in PBS. Then aliquot and store at -20°C to -80°C until use. Antibodies should be stored at +4°C when still lyophilized. Do not freeze! For detailed information, see back of the data sheet.
Applications	WB: not tested yet IP: not tested yet ICC: 1 : 500 IHC: 1 : 1:100 up to 1 : 1:500 IHC_P: 1 : 1:400 up to 1 : 1:1000
Immunogen	Recombinant protein corresponding to AA 266 to 417 from mouse NGF receptor (UniProt Id: Q9Z0W1)
Reactivity	Reacts with: mouse (Q9Z0W1), rat (P07174). Other species not tested yet.

TO BE USED IN VITRO / FOR RESEARCH ONLY
NOT TOXIC, NOT HAZARDOUS, NOT INFECTIOUS, NOT CONTAGIOUS

Background

NGF (Nerve Growth Factor) receptor p75, also termed p75NTR, NGFR and CD271, is a low affinity neurotrophin receptor and a single-pass type I transmembrane protein. Its ligands include NGF, brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3) and NT-4.

NGF receptor p75 is expressed by many cell types including neurons, Schwann cells, mesenchymal stem/stromal cells, follicular dendritic cells, and various neural crest cells and their tumors.

By mediating neurotrophin signals, the receptor appears to play a role in multiple processes, including neuronal growth, migration, differentiation and cell death during development of the central and peripheral nervous system.

NGF receptor p75 binds its ligands as a homodimer but can also form heterodimers with other receptors such as TrkA, TrkB, TrkC, Nogo receptor and sortilin. The precise multimeric receptor complex formed will determine the ligand being recognized and the biological response to its binding.

Selected General References

The p75 neurotrophin receptor: at the crossroad of neural repair and death.

Meeker RB, Williams KS

Neural regeneration research (2015) 105: 721-5. .

Nuclear pore complex remodeling by p75(NTR) cleavage controls TGF-β signaling and astrocyte functions.

Schachtrup C, Ryu JK, Mammadzada K, Khan AS, Carlton PM, Perez A, Christian F, Le Moan N, Vagena E, Baeza-Raja B, Rafalski V, et al.

Nature neuroscience (2015) 188: 1077-80. .

Specific marker expression and cell state of Schwann cells during culture in vitro.

Liu Z, Jin YQ, Chen L, Wang Y, Yang X, Cheng J, Wu W, Qi Z, Shen Z

PLoS one (2015) 104: e0123278. .

Role of p75 neurotrophin receptor in stem cell biology: more than just a marker.

Tomellini E, Lagadec C, Polakowska R, Le Bourhis X

Cellular and molecular life sciences : CMLS (2014) 7113: 2467-81. .

Drain of the brain: low-affinity p75 neurotrophin receptor affords a molecular sink for clearance of cortical amyloid β by the cholinergic modulator system.

Ovsepien SV, Herms J

Neurobiology of aging (2013) 3411: 2517-24. .

p75 neurotrophin receptor is a clock gene that regulates oscillatory components of circadian and metabolic networks.

Baeza-Raja B, Eckel-Mahan K, Zhang L, Vagena E, Tsigelny IF, Sassone-Corsi P, Ptáček LJ, Akassoglou K

The Journal of neuroscience : the official journal of the Society for Neuroscience (2013) 3325: 10221-34. .

p75 neurotrophin receptor signaling in nervous system injury and degeneration: paradox and opportunity.

Ibáñez CF, Simi A

Trends in neurosciences (2012) 357: 431-40. .

The p75 neurotrophin receptor.

Underwood CK, Coulson EJ

The international journal of biochemistry & cell biology (2008) 409: 1664-8. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/396005> or scan the QR-code.



FAQ - How should I store my antibody?

Shipping Conditions

- All our antibodies and control proteins / peptides are shipped lyophilized (vacuum freeze-dried) and are stable in this form without loss of quality at ambient temperatures for several weeks.

Storage of Sealed Vials after Delivery

- **Unlabeled** and **biotin-labeled antibodies** and **control proteins** should be stored at 4°C before reconstitution. **They must not be stored in the freezer when still lyophilized!** Temperatures below zero may cause loss of performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long term storage (several months) may lead to aggregation.
- **Control peptides** should be kept at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- The storage freezer must not be of the frost-free variety ("no-frost freezer"). This cycle between freezing and thawing (to reduce frost-build-up), which is exactly what should be avoided. For the same reason, antibody vials should be placed in an area of the freezer that has minimal temperature fluctuations, for instance towards the back rather than on a door shelf.
- Aliquot the antibody and store frozen (-20°C to -80°C). Avoid very small aliquots (below 20 µl) and use the smallest storage vial or tube possible. The smaller the aliquot, the more the stock concentration is affected by evaporation and adsorption of the antibody to the surface of the storage vial or tube. Adsorption of the antibody to the surface leads to a substantial loss of activity.
- The addition of glycerol to a final concentration of 50% lowers the freezing point of your stock and keeps your antibody at -20°C in liquid state. This efficiently avoids freeze and thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C.

Monoclonal Antibodies

- **Ascites** and **hybridoma supernatant** should be stored at -20°C up to -80°C. **Prolonged storage at 4°C is not recommended!** Unlike serum, ascites may contain proteases that will degrade the antibodies.
- **Purified IgG** should be stored at -20°C up to -80°C. Adding a carrier protein like BSA will increase long term stability. Many of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Polyclonal Antibodies

- **Crude antisera:** With anti-microbials added, they may be stored at 4°C. However, frozen storage (-20°C up to -80°C) is preferable.
- **Affinity purified antibodies:** Less robust than antisera. Storage at -20°C up to -80°C is recommended. Adding a carrier protein like BSA will increase long term stability. Most of our antibodies already contain carrier proteins. Please refer to the data-sheet for detailed information.

Fluorescence-labeled Antibodies

- Store as a liquid with 1 : 1 (v/v) glycerol at -20°C. Protect these antibodies from light exposure.

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All our purified antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the amount of deionized water given in the respective datasheet. If higher volumes are preferred, add water as mentioned above and then the desired amount of PBS and a stabilizing carrier protein (e.g. BSA) to a final concentration of 2%. Some of our antibodies already contain albumin. Take this into account when adding more carrier protein. For complete reconstitution, carefully remove the lid. After adding water, briefly vortex the solution. You can spin down the liquid by placing the vial into a 50 ml centrifugation tube filled with paper.
- If desired, add small amounts of azide or thimerosal to prevent microbial growth. This is especially recommended if you want to keep an aliquot a 4°C.
- After reconstitution of fluorescence-labeled antibodies, add 1 : 1 (v/v) glycerol to a final concentration of 50%. This lowers the freezing point of your stock and keeps your antibody in liquid state at -20°C.
- Glycerol may also be added to unlabeled primary antibodies. It is a suitable way to avoid freeze-thaw cycles.
- Please refer to our **tips and hints for subsequent storage** of reconstituted antibodies and control peptides and proteins.