SYSY Antibodies

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Neurofilament H

Cat.No. 171 121; Monoclonal mouse antibody, 100 µg purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µg purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 µl H_2O 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**: 1 : 1000 (AP-staining) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: 1 : 500 **IHC-P**: 1 : 100 up to 1 : 1000
Clone	N52
Subtype	IgG1
Immunogen	Full length purified pig Neurofilament H (UniProt Id: F1RFH3)
Reactivity	Reacts with: mouse (P19246), rat (P16884), pig (F1RFH3), ape, human (P12036). Other species not tested yet.
Specificity	Detects phosphorylated and unphosphorylated Neurofilament H.

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

Background

Neurofilaments are exclusively expressed in nerve cells and are the major structural component of large-diameter myelinated axons. They are predominatly composed of three proteins, Neurofilament **H**, L and M and are among the most highly phosphorylated neuronal proteins.

Selected References for 171 121

Expression of neurofilaments and of a titin epitope in thymic epithelial tumors. Implications for the pathogenesis of myasthenia gravis.
Marx A, Wilisch A, Schultz A, Greiner A, Magi B, Pallini V, Schalke B, Toyka K, Nix W, Kirchner T, Müller-Hermelink HK, et al.
The American journal of pathology (1996) 1486: 1839-50. . **WB, IHC; tested species: human**

Reactivity of a panel of neurofilament antibodies on phosphorylated and dephosphorylated neurofilaments.
Shaw G, Osborn M, Weber K
European journal of cell biology (1986) 421: 1-9. . **IHC, WB; tested species: human,rat**

Comparative study of the three neurofilament subunits within pig and human retinal ganglion cells.
Ruiz-Ederra J, García M, Hicks D, Vecino E
Molecular vision (2004) 10: 83-92. . **IHC; tested species: pig**

Evidence that Wallerian degeneration and localized axon degeneration induced by local neurotrophin deprivation do not involve caspases.
Finn JT, Weil M, Archer F, Siman R, Srinivasan A, Raff MC
The Journal of neuroscience : the official journal of the Society for Neuroscience (2000) 204: 1333-41. . **IHC; tested species: mouse,rat**

Accumulation of amyloid beta and tau and the formation of neurofilament inclusions following diffuse brain injury in the pig.
Smith DH, Chen XH, Nonaka M, Trojanowski JQ, Lee VM, Saatman KE, Leoni MJ, Xu BN, Wolf JA, Meaney DF
Journal of neuropathology and experimental neurology (1999) 589: 982-92. . **IHC; tested species: pig**

Unexpected immunoreactivities of intermediate filament antibodies in human brain and brain tumors.
Franke FE, Schachenmayr W, Osborn M, Altmannsberger M
The American journal of pathology (1991) 1391: 67-79. . **IHC; tested species: human**

Evidence for a hepatocellular lineage in a combined hepatocellular-cholangiocarcinoma of transitional type.
Fisher HP, Doppl W, Osborn M, Altmannsberger M
Virchows Archiv. B, Cell pathology including molecular pathology (1988) 562: 71-6. . **IHC; tested species: human**

Selected General References

New movements in neurofilament transport, turnover and disease.
Barry DM et al. Exp. Cell Res. (2007) PubMed:17451679

Regulation between O-GlcNAcylation and phosphorylation of neurofilament-M and their dysregulation in Alzheimer disease.
Deng Y et al. FASEB J. (2008) PubMed:17687114

CSF neurofilament proteins in the differential diagnosis of dementia.
de Jong D et al. J. Neurol. Neurosurg. Psychiatry (2007) PubMed:17314187

14-3-3 protein binds to the low molecular weight neurofilament (NFL) mRNA 3' UTR.
Ge WW et al. Mol. Cell. Neurosci. (2007) PubMed:17098443

Differential subcellular localization of phosphorylated neurofilament and tau proteins in degenerating neurons of the human entorhinal cortex.
Porchet R et al. Neuroreport (2003) PubMed:12802177

Influence of the axotomy to cell body distance in rat rubrospinal and spinal motoneurons: differential regulation of GAP-43, tubulins, and neurofilament-M.
Fernandes KJ et al. J. Comp. Neurol. (1999) PubMed:10531542

Access the online factsheet including applicable protocols at https://sysy.com/product/171121 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.