

## DARPP32

Cat.No. 382 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

### Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For <b>reconstitution</b> add 100 µl H <sub>2</sub> O, then aliquot and store at -20°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	<b>WB:</b> 1 : 1000 up to 1 : 5000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 500 up to 1 : 1000 <b>IHC:</b> 1 : 5000 up to 1 : 10000 <b>IHC_P:</b> 1 : 500 up to 1 : 1000
Immunogen	Synthetic peptide corresponding to AA 148 to 166 from mouse Darpp32 (UniProt Id: Q60829)
Reactivity	Reacts with: mouse (Q6J4I0), rat (Q60829). Other species not tested yet.
Matching control	382-0P

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

### Background

The dopamine and cAMP regulated phosphoprotein **32 kDa (DARPP 32)**, also known as **PPP1R1B**, is phosphorylated in a dopamine dependent manner. Stimulation of the dopamine receptor DRD 1 increases cAMP levels resulting in DARPP 32 phosphorylation. It is a commonly used marker for striatal medium spiny neurons (MSNs).

### Selected References for 382 004

Formation of the mouse internal capsule and cerebral peduncle: A pioneering role for striatonigral axons as revealed in Isl1 conditional mutants.  
Ehrman JM, Merchan-Sala P, Ehrman L, Chen B, Lim HW, Waclaw RR, Campbell K  
The Journal of neuroscience : the official journal of the Society for Neuroscience (2022) : . . . **IHC; tested species: mouse**

### Selected General References

Protective Effect of Curcumin by Modulating BDNF/DARPP32/CREB in Arsenic-Induced Alterations in Dopaminergic Signaling in Rat Corpus Striatum.  
Srivastava P, Dhuriya YK, Gupta R, Shukla RK, Yadav RS, Dwivedi HN, Pant AB, Khanna VK  
Molecular neurobiology (2016) : . . .

Interrogating the aged striatum: robust survival of grafted dopamine neurons in aging rats produces inferior behavioral recovery and evidence of impaired integration.  
Collier TJ, O'Malley J, Rademacher DJ, Stancati JA, Sisson KA, Sortwell CE, Paumier KL, Gebremedhin KG, Steece-Collier K  
Neurobiology of disease (2015) 77: 191-203. .

Striatal progenitors derived from human ES cells mature into DARPP32 neurons in vitro and in quinolinic acid-lesioned rats.  
Aubry L, Bugi A, Lefort N, Rousseau F, Peschanski M, Perrier AL  
Proceedings of the National Academy of Sciences of the United States of America (2008) 105(43): 16707-12. .

Phosphodiesterase 1B differentially modulates the effects of methamphetamine on locomotor activity and spatial learning through DARPP32-dependent pathways: evidence from PDE1B-DARPP32 double-knockout mice.  
Ehrman LA, Williams MT, Schaefer TL, Gudelsky GA, Reed TM, Fienberg AA, Greengard P, Vorhees CV  
Genes, brain, and behavior (2006) 57: 540-51. .

Immunohistochemical localization of DARPP32 in striatal projection neurons and striatal interneurons in pigeons.  
Reiner A, Perera M, Paullus R, Medina L  
Journal of chemical neuroanatomy (1998) 16(1): 17-33. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/382004> 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.