

FoxP2

Cat.No. 485 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

| | |
|----------------------------|---|
| Reconstitution/ Storage | 100 µl antiserum, lyophilized. For reconstitution add 100 µl H ₂ 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 | WB: not recommended ICC: not tested yet IHC: 1 : 500 IHC-P: 1 : 1000 |
| Immunogen | Synthetic peptide corresponding to residues near the carboxy terminus of human FoxP2. (UniProt Id: O15409) |
| Reactivity | Reacts with: mouse (P58463), rat (P0CF24). Other species not tested yet. |

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

Background

Forkhead box protein P2, FoxP2 is a transcription factor protein that belongs to the family of winged-helix DNA binding proteins known as the Fox family (1). The FoxP subclass comprises four members, FoxP1-4 (2). FoxP3 is mainly expressed in the immune system, while FoxP1, 2 and 4 occur in various tissues (2). In brain they are located to distinct cell types in a specific spatiotemporal pattern (2, 3). FoxP2 is involved in a wide range of biological processes, including neuronal and lung development (1). Mutations in the FOXP2 gene have been implicated in several human speech and language disorders (4). Consistent with these findings, FoxP2 was shown to play an important role in the transcriptional control of the SRXP2 gene that regulates synapse formation and vocalization in mice (5).

Selected General References

Transcriptional and DNA binding activity of the Foxp1/2/4 family is modulated by heterotypic and homotypic protein interactions.

Li S et al. Mol Cell Biol (2004) PubMed:14701752

Molecular networks of the FOXP2 transcription factor in the brain.

den Hoed J et al. EMBO Rep (2021) PubMed:34260143

FOXP transcription factors in vertebrate brain development, function, and disorders.

Co M et al. Wiley Interdiscip Rev Dev Biol (2020) PubMed:31999079

The human language-associated gene SRPX2 regulates synapse formation and vocalization in mice.

Sia GM et al. Science (2013) PubMed:24179158

A forkhead-domain gene is mutated in a severe speech and language disorder.

Lai CS et al. Nature (2001) PubMed:11586359

Access the online factsheet including applicable protocols at <https://sysy.com/product/485004> 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.