

## SOX2

Cat.No. 347 003; Polyclonal rabbit antibody, 50 µg specific antibody (lyophilized)

### Data Sheet

|                            |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reconstitution/<br>Storage | 50 µg specific antibody, lyophilized. Affinity purified with the immunogen. Albumin and azide were added for stabilization. For <b>reconstitution</b> add 50 µl H <sub>2</sub> 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               | <b>WB:</b> not tested yet (AP staining)<br><b>IP:</b> not tested yet<br><b>ICC:</b> 1 : 500 up to 1 : 1000<br><b>IHC:</b> 1 : 500 up to 1 : 5000<br><b>IHC-P:</b> 1 : 200                                                                                                                                                                                                                              |
| Immunogen                  | Synthetic peptide corresponding to residues near the carboxy terminus of mouse SOX2 (UniProt Id: P48432)                                                                                                                                                                                                                                                                                               |
| Reactivity                 | Reacts with: rat (D4A543), mouse (P48432), human (P48431).<br>Other species not tested yet.                                                                                                                                                                                                                                                                                                            |

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

### Background

Sex determining region of Y chromosome (**Sry**)-related high mobility group **box1-3** or **SOX 1-3** proteins belong to the earliest transcription factors expressed in the developing CNS. **SOX1**, **SOX2** and **SOX3** constitute the B1-subgroup of the Sox gene family 12. They are expressed by most progenitor cells of the developing CNS and are generally downregulated by neural cells when they exit the cell cycle and differentiate.

### Selected References for 347 003

INSIHGT: an accessible multi-scale, multi-modal 3D spatial biology platform.  
Yau CN, Hung JTS, Campbell RAA, Wong TCY, Huang B, Wong BTY, Chow NKN, Zhang L, Tsoi EPL, Tan Y, Li JJX, et al. Nature communications (2024) 151: 10888. . **IHC; tested species: mouse**

Loss of FEZ1, a gene deleted in Jacobsen syndrome, causes locomotion defects and early mortality by impairing motor neuron development.  
Gunaseelan S, Wang Z, Tong VKJ, Ming SWS, Razar RBBA, Srimasorn S, Ong WY, Lim KL, Chua JJE. Human molecular genetics (2021) : . . **ICC; tested species: human**

### Selected General References

Generation of organized germ layers from a single mouse embryonic stem cell.  
Poh YC et al. Nat Commun (2014) PubMed:24873804

How Sox2 maintains neural stem cell identity.  
Thiel G et al. Biochem. J. (2013) PubMed:23445224

Interaction of Sox1, Sox2, Sox3 and Oct4 during primary neurogenesis.  
Archer TC et al. Dev. Biol. (2011) PubMed:21147085

Role of Sox2 in the development of the mouse neocortex.  
Bani-Yaghoob M et al. Dev. Biol. (2006) PubMed:16631155

Sox1 acts through multiple independent pathways to promote neurogenesis.  
Kan L et al. Dev. Biol. (2004) PubMed:15110721

Vertebrate neurogenesis is counteracted by Sox1-3 activity.  
Bylund M et al. Nat. Neurosci. (2003) PubMed:14517545

SOX2 functions to maintain neural progenitor identity.  
Graham V et al. Neuron (2003) PubMed:12948443

Comparative expression of the mouse Sox1, Sox2 and Sox3 genes from pre-gastrulation to early somite stages.  
Wood HB et al. Mech. Dev. (1999) PubMed:10446282

A role for SOX1 in neural determination.  
Pevny LH et al. Development (1998) PubMed:9550729

SOX3 is an X-linked gene related to SRY.  
Stevanović M et al. Hum. Mol. Genet. (1993) PubMed:8111369

Access the online factsheet including applicable protocols  
at <https://sysy.com/product/347003> 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 at 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.