

Olig2

Cat.No. 292 013; Polyclonal rabbit 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 recommended IP: not tested yet ICC: 1 : 1000 IHC: 1 : 2000 up to 1 : 10000 IHC-P: 1 : 1000 up to 1 : 10000
Immunogen	Full length mouse recombinant Olig2 (UniProt Id: Q9EQW6)
Reactivity	Reacts with: mouse (Q9EQW6), rat (G3V612), human (Q13516). Other species not tested yet.

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

Background

Olig2 (also known as BHLHB1 and PRKCBP2) is a basic helix–loop–helix transcription factor characteristic of the oligodendroglial lineage and plays key roles in the specification and maturation of oligodendrocytes. Oligodendrocytes are glial cells that produce and maintain central nervous system myelin; Morphologically, oligodendrocyte nuclei are typically smaller and more oval than nuclei of other CNS cell types. (1-3).

In cancer, particularly in diffuse gliomas, Olig2 is widely used as a nuclear immunohistochemical marker of glial lineage. In diagnostic pathology, nuclear Olig2 immunohistochemistry is widely used as a glial lineage marker in diffuse gliomas: Olig2 is strongly expressed in oligodendrogliomas and is also detectable in a substantial proportion of astrocytomas and glioblastomas (GBM). Large cohorts established that Olig2 is highly expressed across diffuse gliomas while being largely restricted to oligodendroglia in normal brain, supporting its utility in routine practice (4, 5).

Selected General References

Stage-specific deletion of Olig2 conveys opposing functions on differentiation and maturation of oligodendrocytes.
Mei F et al. J. Neurosci. (2013) PubMed:23658182

Oligodendroglioma: pathology, molecular mechanisms and markers.
Wesseling P et al. Acta Neuropathol (2015) PubMed:25943885

Olig2/Plp-positive progenitor cells give rise to Bergmann glia in the cerebellum.
Chung SH et al. Cell Death Dis (2013) PubMed:23492777

Transcription factor Olig2 defines subpopulations of retinal progenitor cells biased toward specific cell fates.
Hafler BP et al. Proc. Natl. Acad. Sci. U.S.A. (2012) PubMed:22543161

The oligodendroglial lineage marker OLIG2 is universally expressed in diffuse gliomas.
Ligon KL et al. J Neuropathol Exp Neurol (2004) PubMed:15198128

Access the online factsheet including applicable protocols
at <https://sysy.com/product/292013> 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.