

EGR1

Cat.No. 497 003; 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 tested yet IP: not tested yet ICC: 1 : 500 up to 1 : 1000 IHC: 1 : 500 IHC-P: 1 : 200
Immunogen	Recombinant protein corresponding to residues near the central region of mouse EGR1 (UniProt Id: P08046)
Reactivity	Reacts with: mouse (P08046), rat (P08154). Other species not tested yet.

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

Background

The **early growth response protein 1 (EGR1)** and its relatives EGR2 and 3 are zinc finger transcription factors that regulate the expression of numerous target genes in response to neural activity, growth factors, DNA damage ischemia, cancer development and more (1).

EGR1 belongs to the neuronal activity-inducible immediate early genes involved in synaptic plasticity, learning and memory (2). In contrast to other immediate early genes EGR1 displays a relatively high basal expression level driven by natural synaptic activity (3).

In cancer, EGR1 is involved in tumorigenesis and tumor progression (4) and has been shown to play a role as a central regulator of early inflammatory and immune responses (5).

Selected General References

Early growth response protein 1 (Egr-1): prototype of a zinc-finger family of transcription factors.
Gashler A, Sukhatme VP
Progress in nucleic acid research and molecular biology (1995) 50: 191-224. .

The Role of the Transcription Factor EGR1 in Cancer.
Wang B, Guo H, Yu H, Chen Y, Xu H, Zhao G
Frontiers in oncology (2021) 11: 642547. .

Early growth response 1 (Egr-1) directly regulates GABAA receptor α2, α4, and θ subunits in the hippocampus.
Mo J, Kim CH, Lee D, Sun W, Lee HW, Kim H
Journal of neurochemistry (2015) 1334: 489-500. .

Mature human neutrophils constitutively express the transcription factor EGR-1.
Cullen EM, Brazil JC, O'Connor CM
Molecular immunology (2010) 479: 1701-9. .

Constitutive expression of zif268 in neocortex is regulated by synaptic activity.
Worley PF, Christy BA, Nakabeppu Y, Bhat RV, Cole AJ, Baraban JM
Proceedings of the National Academy of Sciences of the United States of America (1991) 8812: 5106-10. .

Access the online factsheet including applicable protocols at <https://sysy.com/product/497003> 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.