

## c-Fos

Cat.No. 226 008; Recombinant rabbit antibody, 50 µg recombinant IgG (lyophilized)

### Data Sheet

Reconstitution/ Storage	50 µg purified recombinant IgG, lyophilized. 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> 1 : 1000 up to 1 : 5000 (AP staining) <b>IP:</b> not tested yet <b>ICC:</b> 1 : 1000 <b>IHC:</b> 1 : 1000 up to 1 : 5000 (see remarks) <b>IHC-P:</b> 1 : 200 up to 1 : 1000 <b>iDISCO:</b> 1 : 500 <b>Clarity:</b> 1 : 10000
Clone	Rb108B5
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues near the amino terminus of rat c-Fos (UniProt Id: P12841)
Reactivity	Reacts with: mouse (P01101), rat (P12841), human (P01100). Other species not tested yet.
Matching control	226-0P
Remarks	This antibody is a chimeric antibody based on the monoclonal rat antibody clone 108B5. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences. Therefore, the antibody can be used with standard anti-rabbit secondary reagents. The antibody has been expressed in mammalian cells. <b>IHC:</b> For best results, tissue sections should be stored at -20°C in cryoprotectant solution. Prolonged storage at 4°C leads to a substantial loss of signal.

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

## Background

The Fos gene family consists of 4 members: **c-Fos**, FosB, FosL1, and FosL2, also called Fos related antigen 1 and 2 (FRA1 and 2). These leucine zipper proteins can dimerize with proteins of the JUN family leading to the formation of the transcription factor complex AP1 (1). The expression of Fos proteins is rapidly and transiently induced by different extracellular stimuli such as growth factors, cytokines, neurotransmitters, polypeptide hormones, stress (2). In addition Fos proteins can be phosphorylated by ERK kinases modulating transcriptional activity, protein stability and localization (3). c-Fos is the homologue to the Finkel-Biskis-Jenkins (FBJ) murine osteosarcoma virus oncogene (4).

## Selected References for 226 008

Analyzing engram reactivation and long-range connectivity. Refaeli R, Kreisel T, Goshen I STAR protocols (2024) 51: 102840. . **CLARITY; tested species: mouse**

High-calorie diets uncouple hypothalamic oxytocin neurons from a gut-to-brain satiation pathway via κ-opioid signaling. Gruber T, Lechner F, Murat C, Contreras RE, Sanchez-Quant E, Miok V, Makris K, Le Thuc O, González-García I, García-Clave E, Althammer F, et al. Cell reports (2023) 4210: 113305. . **IDISCO; tested species: mouse**

Parvalbumin Neurons in Zona Incerta Regulate Itch in Mice. Li J, Bai Y, Liang Y, Zhang Y, Zhao Q, Ge J, Li D, Zhu Y, Cai G, Tao H, Wu S, et al. Frontiers in molecular neuroscience (2022) 15: 843754. . **IHC; tested species: mouse**

Acute and Reversible Hypothalamic Symptoms in a Lateral Head Impact Mouse Model of Mild Traumatic Brain Injury. O'Reilly-Fong J, Simpson NJ, Thirouin ZS, Bastone PA, Zaelzer C, Murtaz A, Bourque CW Neurotrauma reports (2024) 51: 749-759. . **IHC; tested species: mouse**

A molecularly defined amygdala-independent tetra-synaptic forebrain-to-hindbrain pathway for odor-driven innate fear and anxiety.

Wang H, Wang Q, Cui L, Feng X, Dong P, Tan L, Lin L, Lian H, Cao S, Huang H, Cao P, et al. Nature neuroscience (2024) 273: 514-526. . **IHC; tested species: mouse**

Differences in Neuropathology between Nitroglycerin-Induced Mouse Models of Episodic and Chronic Migraine. Park S, Jung H, Han SW, Lee SH, Sohn JH International journal of molecular sciences (2024) 257: . . **IHC; tested species: mouse**

A nociceptive amygdala-striatal pathway for chronic pain aversion.

Wojick JA, Paranjapye A, Chiu JK, Mahmood M, Oswell C, Kimmy BA, Wooldridge LM, McCall NM, Han A, Ejoh LL, Chehimi SN, et al. bioRxiv : the preprint server for biology (2024) : . . **IHC; tested species: mouse**

A choroid plexus apocrine secretion mechanism shapes CSF proteome and embryonic brain development.

Courtney Y, Head JP, Yimer ED, Dani N, Shipley FB, Libermann TA, Lehtinen MK bioRxiv : the preprint server for biology (2024) : . . **IHC; tested species: mouse**

FOS mapping reveals two complementary circuits for spatial navigation in mouse.

Balcerek E, Włodkowska U, Czajkowski R Scientific reports (2024) 141: 21252. . **IHC; tested species: mouse**

A developmental brain-wide screen identifies retrosplenial cortex as a key player in the emergence of persistent memory.

Jin B, Gongwer MW, Ohanian L, Holden-Wingate L, Le B, Darmawan A, Nakayama Y, Rueda Mora SA, DeNardo LA bioRxiv : the preprint server for biology (2024) : . . **IHC; tested species: mouse**

Prelimbic cortex-nucleus accumbens core projection positively regulates itch and itch-related aversion.

Long JH, Wang PJ, Xuan L, Juan Y, Wu GY, Teng JF, Sui JF, Li YM, Yang L, Li HL, Liu SL, et al. Behavioural brain research (2024) 468: 114999. . **IHC; tested species: rat**

Access the online factsheet including applicable protocols at <https://sysy.com/product/226008> 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.