

## Elfn1

Cat.No. 448 003; 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> 1 : 1000 (AP staining)<br><b>IP:</b> not tested yet<br><b>ICC:</b> 1 : 500<br><b>IHC:</b> 1 : 500 up to 1 : 1000<br><b>IHC-P:</b> not tested yet                                                                                                                                                                                                                                            |
| Immunogen                  | Recombinant protein corresponding to residues near the carboxy terminus of mouse Elfn1 (UniProt Id: Q8C8T7)                                                                                                                                                                                                                                                                                            |
| Reactivity                 | Reacts with: mouse (Q8C8T7), rat (D3ZZ44).<br>Other species not tested yet.                                                                                                                                                                                                                                                                                                                            |
| Specificity                | K.O. validated PubMed: <a href="#">35221979</a>                                                                                                                                                                                                                                                                                                                                                        |

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

### Background

Extracellular leucine-rich repeat and fibronectin type-III domain-containing protein 1 (Elfn1) is a post-synaptic protein that regulates circuit dynamics in the central nervous system (1) and is expressed with increasing levels during postnatal development (2).

Elfn1 is involved in the generation of facilitating synapses onto somatostatin interneurons by the recruitment of the two pre-synaptic components mGluR7 and GluK2 (2, 3).

Missense mutations of Elfn1 in the carboxy-terminal region required for mGluR7 recruitment have been observed in patients with epilepsy and attention deficit hyperactivity disorder (ADHD) (2).

### Selected References for 448 003

Selective Enrichment of Munc13-2 in Presynaptic Active Zones of Hippocampal Pyramidal Cells That Innervate mGluR1α Expressing Interneurons.

Holderith N, Aldahabi M, Nusser Z

Frontiers in synaptic neuroscience (2021) 13: 773209. . **IHC; KO verified; tested species: rat,mouse**

Different priming states of synaptic vesicles underlie distinct release probabilities at hippocampal excitatory synapses.

Aldahabi M, Balint F, Holderith N, Lorincz A, Reva M, Nusser Z

Neuron (2022) : . . **IHC; tested species: mouse**

### Selected General References

Elfn1 regulates target-specific release probability at CA1-interneuron synapses.

Sylwestrak EL et al. Science (2012) PubMed:23042292

Elfn1-Induced Constitutive Activation of mGluR7 Determines Frequency-Dependent Recruitment of Somatostatin Interneurons.

Stachniak TJ et al. J Neurosci (2019) PubMed:30940718

Elfn1 recruits presynaptic mGluR7 in trans and its loss results in seizures.

Tomioka NH et al. Nat Commun (2014) PubMed:25047565

Access the online factsheet including applicable protocols at <https://sysy.com/product/448003> 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.