

## TRPV1 extracellular domain

Cat.No. 444 003; 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 <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) <b>IP:</b> not tested yet <b>ICC:</b> not tested yet <b>IHC:</b> 1 : 2000 (see remarks) <b>IHC-P:</b> not tested yet
Immunogen	Recombinant protein corresponding to AA 601-629 in mouse TRPV1 (UniProt Id: Q704Y3)
Reactivity	Reacts with: mouse (Q704Y3). Weaker signal: rat (O35433). Other species not tested yet.
Remarks	<b>IHC:</b> Antigen retrieval with citrate buffer pH 6 is required.

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

### Background

**TRPV1 (Transient receptor potential cation channel subfamily V member 1)**, also capsaicin receptor and vanilloid receptor 1) is a member of the TRPV group of the transient receptor potential family of ion channels (1, 3). Expression has been mainly reported in sensory neurons of the peripheral and central nervous system (2, 3). The receptor is activated by a wide variety of exogenous and endogenous physical and chemical stimuli like temperature greater than 42°C; acidic conditions (pH<6); vanilloids, like capsaicin, and allyl isothiocyanate (3). In addition to direct activation, TRPV1 channel activity can also be modulated by inflammatory mediators, such as prostaglandins and bradykinin (4). TRPV1 is involved in the detection and regulation of body temperature, as well as in the sensation of noxious environmental stimuli, like scalding heat and pain. TRPV1 acts as ionotropic endocannabinoid receptor with central neuromodulatory effects and is a prime target for the development of analgesics (5).  
[[TRPV1 Epitopes.jpg]]

### Selected References for 444 003

Distributed interfacing by nanoscale photodiodes enables single-neuron light activation and sensory enhancement in 3D spinal explants.  
Thalhammer A, Fontanini M, Shi J, Scaini D, Recupero L, Evtushenko A, Fu Y, Pavagada S, Bistovic-Popov A, Fruk L, Tian B, et al. Science advances (2022) 832: eabp9257. . **UPTAKE; tested species: mouse**

### Selected General References

International Union of Pharmacology. XLIX. Nomenclature and structure-function relationships of transient receptor potential channels.  
Clapham DE et al. Pharmacol. Rev. (2005) PubMed:16382100  
The expression pattern of TRPV1 in brain.  
Menigoz A et al. J. Neurosci. (2011) PubMed:21917785  
TRPV1: a target for next generation analgesics.  
Premkumar LS et al. Curr Neuropharmacol (2008) PubMed:19305794  
The TRPV1 receptor and nociception.  
Immke DC et al. Semin. Cell Dev. Biol. (2006) PubMed:17196854  
The capsaicin receptor: a heat-activated ion channel in the pain pathway.  
Caterina MJ et al. Nature (1997) PubMed:9349813

Access the online factsheet including applicable protocols at <https://sysy.com/product/444003> 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.