SYSY | HistoSure

Rudolf-Wissell-Str. 28a
37079 Göttingen, Germany
Phone: +49 551-50556-0
Fax: +49 551-50556-384
E-mail: sales@sysy.com
Web: sysy-histosure.com

CD3e human specific

Cat.No. HS-413 008; Recombinant rabbit antibody, 100 µl recombinant IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl purified recombinant IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 100 µl H_2O. 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.
Concentration	1 mg/ml
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: not tested yet **IHC**: not tested yet **IHC-P**: 1 : 1000 up to 1 : 4000
Clone	Rb281A6
Subtype	IgG1 (κ light chain)
Immunogen	Synthetic peptide corresponding to residues surrounding AA 55 of human CD3e (UniProt Id: P07766)
Reactivity	Reacts with: human (P07766). No signal: mouse (P22646). Other species not tested yet.
Remarks	This antibody is a chimeric antibody based on the monoclonal rat antibody clone 281A6F1. The constant regions of the heavy and light chains have been replaced by rabbit specific sequences Therefore, the antibody can be used with standard anti-rabbit secondary reagents.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.

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

Background

Cluster of differentiation 3 (CD3) is a defining feature of cells belonging to the T cell lineage. It is composed of the four subunits CD3 gamma, CD3 delta, **CD3 epsilon** (**CD3e**) and CD3 zeta, that form a multimeric protein complex. This complex associates with the T cell receptor (TCR) and serves as a T cell co-receptor. The CD3 molecules contain immunoreceptor tyrosine-based activation motifs (ITAMs) that serve as the nucleating point for the intracellular signal transduction machinery upon TCR engagement. TCR/CD3 signaling is central to the initiation of antigen-specific T cell responses to pathogens and vaccines, as well as transplanted tissues, tumors, and autoantigens. CD3 is initially expressed in the cytoplasm of pro-thymocytes. During T cell maturation the expression of CD3 migrates to the cell-membrane. The specific appearance at all stages of T cell development make CD3 a useful immunohistochemical marker for T cells in tissue sections. In the clinical setting, CD3 is a relevant marker for the classification of malignant lymphomas and leukemias as the antigen remains present in almost all T-cell lymphomas and leukemias. It can also be used to detect T cells in celiac disease, lymphocytic and collagenous colitis.

Selected General References

CD3 immunohistochemical staining in diagnosis of lymphocytic colitis.
Fiehn AM et al. Hum. Pathol. (2016) PubMed:26772395

T cell activation.
Smith-Garvin JE et al. Annu. Rev. Immunol. (2009) PubMed:19132916

Lymphocytic and collagenous colitis: an immunohistochemical study.
Mosnier JF et al. Am. J. Gastroenterol. (1996) PubMed:8677934

CD3: structure, function, and role of immunostaining in clinical practice.
Chetty R et al. J. Pathol. (1994) PubMed:7525907

Access the online factsheet including applicable protocols at https://sysy-histosure.com/product/HS-413008 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.