SYSY Antibodies

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DPP4

Cat.No. 539 005; Polyclonal Guinea pig 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_2O 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**: 1 : 1000 up to 1 : 5000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 (see remarks) **IHC**: 1 : 1000 up to 1 : 5000 (see remarks) **IHC-P (FFPE)**: 1 : 1000 up to 1 : 4000
Immunogen	Synthetic peptide corresponding to residues surrounding AA 500 of mouse DPP4 (UniProt Id: P28843)
Reactivity	Reacts with: mouse (P28843), rat (P14740), human (P27487). Other species not tested yet.
Remarks	**ICC**: Methanol fixation is recommended. The following fixatives are not advised: 2% formaldehyde/PFA. **IHC**: 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

Dipeptidyl peptidase-4 (DPP4), also known as cluster of differentiation 26 (CD26), is a multifunctional type II transmembrane glycoprotein with enzymatic and non-enzymatic roles in metabolism, immune regulation, tissue remodeling, and cancer. DPP4/CD26 is widely expressed on epithelial, endothelial, stromal, and immune cells and exists both as a membrane-bound protein and a soluble circulating form, enabling broad systemic effects (1–3). Through its proteolytic activity, DPP4/CD26 cleaves incretin hormones, chemokines, neuropeptides, and cytokines, thereby regulating glucose homeostasis, immune cell trafficking, and inflammatory signaling (3,4). Accordingly, DPP4 inhibitors are widely used in the treatment of type 2 diabetes mellitus (5). Beyond its metabolic function, accumulating evidence implicates DPP4 in the pathogenesis of cardiovascular disease, organ fibrosis, and infectious diseases (2,3,4). DPP4 also plays a complex and context-dependent role in cancer biology. Its expression is dysregulated across multiple malignancies, where it may function as either a tumor-promoting or tumor-suppressive factor depending on cellular and microenvironmental context (6). In colorectal cancer, DPP4 marks a subpopulation of cancer stem cells with high metastatic potential. Notably, experimental evidence demonstrates that anti-DPP4 antibody therapy suppresses epithelial-mesenchymal transition and metastasis (7).

Selected General References

DPP4 inhibitors as a novel therapeutic strategy in colorectal cancer: Integrating network biology and experimental insights.
Bardaweel SK et al. PLoS One (2025) PubMed:41071836

Dipeptidyl Peptidase 4 Inhibitors: Novel Therapeutic Agents in the Management of Type II Diabetes Mellitus.
Aloke C et al. Pharmacoepidemiol Drug Saf (2025) PubMed:41355613

Anti-CD26 Antibody Suppresses Epithelial-Mesenchymal Transition in Colorectal Cancer Stem Cells.
Iwasawa T et al. Int J Mol Sci (2025) PubMed:40806753

Targeting cluster of differentiation 26 / dipeptidyl peptidase 4 (CD26/DPP4) in organ fibrosis.
Ohm B et al. Br J Pharmacol (2023) PubMed:36196001

DPP4 as a Potential Candidate in Cardiovascular Disease.
Chen SY et al. J Inflamm Res (2022) PubMed:36147690

Role of Dipeptidyl Peptidase-4 (DPP4) on COVID-19 Physiopathology.
Sebastián-Martín A et al. Biomedicines (2022) PubMed:36009573

CD26/DPP4 - a potential biomarker and target for cancer therapy.
Enz N et al. Pharmacol Ther (2019) PubMed:30822465

Access the online factsheet including applicable protocols at https://sysy.com/product/539005 or scan the QR-code.

FAQ - How should I store my antibody?

Shipping Conditions

- All SYSY antibodies and control proteins/peptides are shipped lyophilized (vacuum freeze-dried). In this form, they remain stable 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. **Do not freeze lyophilized antibodies**. Temperatures below 0°C may impair performance.
- **Fluorescence-labeled antibodies** should be reconstituted immediately upon receipt. Long-term storage of lyophilized fluorophore-conjugates may cause aggregation.
- **Control peptides** should be stored at -20°C before reconstitution.

Long Term Storage after Reconstitution (General Considerations)

- **Do not use frost-free ("no-frost") freezers.** These units periodically warm to remove ice buildup, causing freeze–thaw cycles that can damage antibodies.
- Store vials in areas with minimal temperature fluctuation - preferably toward the back of the freezer, not on the door.
- Aliquot reconstituted antibodies and store at –20°C to –80°C.
- Avoid very small aliquots (<20 µL), as evaporation and adsorption to tube surfaces can reduce antibody concentration and activity.
- Use the smallest practical storage vial to minimize surface area.
- Adding glycerol to a final concentration of 50% prevents freezing at -20°C, allowing storage in liquid form and effectively avoiding freeze–thaw cycles.

Product Specific Hints for Storage

Control proteins / peptides

- Store at -20°C to -80°C

Monoclonal Antibodies

- **Ascites and hybridoma supernatant:** Store at -20°C to -80°C
  Prolonged storage at 4°C is not recommended, as proteases present in ascites may degrade antibodies.
- **Purified IgG:** Store at -20°C to -80°C
  Adding a carrier protein (e.g., BSA) enhances long-term stability.
  Many SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Polyclonal Antibodies

- **Crude antisera:** Can be stored at 4°C with antimicrobials added, but -20°C to -80°C is preferred
- **Affinity-purified antibodies:** Less stable than antisera; store at -20°C to -80°C
  Adding a carrier protein such as BSA improves long-term stability.
  Most SYSY antibodies already contain carrier proteins - refer to the respective datasheet for details.

Fluorescence-labeled Antibodies

- Store as a liquid with 1:1 (v/v) glycerol at -20°C, and protect from light exposure

Avoid repeated freeze-thaw cycles for all antibodies!

FAQ - How should I reconstitute my antibody?

Reconstitution

- All purified SYSY antibodies are lyophilized from PBS. To reconstitute the antibody in PBS, add the volume of deionized water specified in the corresponding datasheet. If a larger final volume is desired, first add the recommended amount of water, then adjust with PBS and, if needed, add a stabilizing carrier protein (e.g., BSA) to a final concentration of 2%. Some SYSY antibodies already contain albumin; please take this into account before adding additional carrier protein.

For complete reconstitution, carefully remove the vial cap. After adding water, briefly vortex the solution. To collect the liquid at the bottom of the vial, place the vial inside a 50 ml centrifuge tube padded with paper and centrifuge briefly.

- If desired, small amounts of azide or thimerosal may be added to prevent microbial growth. This is particularly recommended when storing an aliquot at 4°C.
- After reconstitution of fluorescence-labeled antibodies, add glycerol 1:1 (v/v) to achieve a final concentration of 50%. This prevents freezing at –20°C and keeps the antibody in liquid form, effectively avoiding freeze–thaw cycles.
- Glycerol may also be added to unlabeled primary antibodies as a general measure to prevent freeze–thaw damage.
- For further guidance, please refer to our **storage tips** and recommendations for reconstituted antibodies, control peptides, and control proteins.