SYSY Antibodies

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Cytokeratin7 human specific

Cat.No. 454 017; Monoclonal rat antibody, 200 µl purified IgG (lyophilized)

Data Sheet

Reconstitution/ Storage	200 µl purified IgG, lyophilized. Albumin and azide were added for stabilization. For **reconstitution** add 200 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**: 1 : 100 **IHC**: 1 : 200 (see remarks) **IHC-P (FFPE)**: 1 : 100
Clone	123E11H11
Subtype	IgG2a (κ light chain)
Immunogen	Synthetic peptide corresponding to residues surrounding AA 450 of human CK7 (UniProt Id: P08729)
Reactivity	Reacts with: human (P08729), monkey. No signal: mouse (Q9DCV7). Other species not tested yet.
Remarks	**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

Cytokeratins are cytoskeleton proteins of epithelial tissues, contributing to the mechanical stabilization of the cells. The cytokeratin family consists of at least 20 isotypes, which are largely specific for particular organs or tissue types. Therefore, immunohistochemical staining of cytokeratins is clinically used for diagnosis of carcinomas, in particular of unclear metastases and in precise classification and subtyping of tumors (1). Cytokeratin 7 (CK7) is expressed in healthy bladder, in the female genital tract epithelium, in mesothelium and in the lung (2). In tumors, CK7 expression is found in the majority of carcinoma types, with the exception of those carcinomas arising from the colon, prostate, kidney and thymus (3). Furthermore, CK7 expression can have prognostic relevance, e.g. adverse prognostic factor in lung cancer (4), or predictive relevance, e.g. predictive factor of response to concurrent radiochemotherapy in advanced cervical cancer (5).

Selected General References

The human keratins: biology and pathology.
Moll R et al. Histochem Cell Biol (2008) PubMed:18461349

Identification of relevant prognostic values of cytokeratin 20 and cytokeratin 7 expressions in lung cancer.
Luo HT et al. Biosci Rep (2017) PubMed:28827446

Cytokeratin 7 as a predictive factor for response to concommitant radiochemotherapy for locally advanced cervical cancer: a preliminary study.
Lambaudie E et al. Anticancer Res (2014) PubMed:24403459

Cytokeratin 7 and cytokeratin 20 expression in epithelial neoplasms: a survey of 435 cases.
Chu P et al. Mod Pathol (2000) PubMed:11007036

Congenital diaphragmatic hernia treated by perinatal stabilization.
Iwanaka T et al. Asia Oceania J Obstet Gynaecol (1994) PubMed:8092953

Access the online factsheet including applicable protocols at https://sysy.com/product/454017 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.