SYSY | HistoSure

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E-cadherin mouse specific

Cat.No. HS-467 003; 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 **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 **IP**: not tested yet **ICC**: not tested yet **IHC**: 1 : 500 **IHC-P**: 1 : 100 up to 1 : 250
Reactivity	Reacts with: mouse (P09803), rat. No signal: human. 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

Epithelial cadherin (E-cadherin) also known as Cadherin-1, CAM 120/80 or uvomorulin belongs together with neuronal (N) cadherin to the type I classical cadherins, transmembrane proteins that function in calcium-dependent cell-cell adhesion (1). In normal tissues, E-cadherin is expressed by most epithelial cells. A distinct distribution of E-cadherin expression is found in the kidney, where only distal tubuli show E-cadherin expression and in the placenta, where only the cytotrophoblastic layer stains positive for E-cadherin (2). In the human normal adult nervous system E-cadherin expression is limited to the arachnoid membrane, whereas in mice E-cadherin is also expressed in neural stem cells, where E-cadherin regulates self-renewal (3). E-cadherin is a potent tumor suppressor and the so-called “cadherin switch” - downregulation of E-cadherin while N-cadherin is upregulated - is often found in malignant epithelial cancers. This Epithelial-to-Mesenchymal Transition (EMT) has been shown to be crucial in tumorigenesis where the EMT program enhances metastasis, chemoresistance and tumor stemness (4). However, also E-cadherin upregulation in malignancies derived from E-cadherin negative normal tissues tend to be linked to unfavorable tumor phenotype and disease outcome (2). In syngeneic mouse tumors E-cadherin expression is typically lower than in human tumors suggesting that syngeneic mouse models have a more mesenchymal-like tumor cellular phenotype (5).

Selected General References

Cadherins in development: cell adhesion, sorting, and tissue morphogenesis.
Halbleib JM et al. Genes Dev (2006) PubMed:17158740

E-Cadherin expression in human tumors: a tissue microarray study on 10,851 tumors.
Burandt E et al. Biomark Res (2021) PubMed:34090526

Comparison of the molecular and cellular phenotypes of common mouse syngeneic models with human tumors.
Zhong W et al. BMC Genomics (2020) PubMed:31898484

The E-Cadherin and N-Cadherin Switch in Epithelial-to-Mesenchymal Transition: Signaling, Therapeutic Implications, and Challenges.
Loh CY et al. Cells (2019) PubMed:31547193

Misregulated E-cadherin expression associated with an aggressive brain tumor phenotype.
Lewis-Tuffin LJ et al. PLoS One (2010) PubMed:21060868

Access the online factsheet including applicable protocols at https://sysy-histosure.com/product/HS-467003 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.