Synaptic Systems

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CD31

Cat.No. HS-351 004; Polyclonal Guinea pig antibody, 100 µl antiserum (lyophilized)

Data Sheet

Reconstitution/ Storage	100 µl antiserum, lyophilized. For **reconstitution** add 100 µl H_2O, then aliquot and store at -20°C until use. For detailed information, see back of the data sheet.
Applications	**WB**: 1 : 1000 (AP staining) **IP**: not tested yet **ICC**: 1 : 500 **IHC**: not tested yet **IHC-P/FFPE**: 1 : 200 up to 1 : 500
Immunogen	Recombinant protein corresponding to AA 26 to 601 from human CD31 (UniProt Id: P16284)
Reactivity	Reacts with: human (P16284). No signal: mouse (Q08481). Other species not tested yet.
Specificity	Specific for human CD31 without cross-reactivity to mouse CD31

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

Access the online factsheet including applicable protocols at https://sysy-histosure.com/product/HS-351004 or scan the QR-code.

Background

CD 31 or **PECAM 1** is a cell adhesion molecule that contains a single trans-membrane domain and 6 Ig-like C2-type (immunoglobulin-like) domains. It is expressed on platelets and leukocytes and is primarily concentrated at the borders between endothelial cells. Five isoforms (long-form and δ 12, 13, 14 and 15) with differential expression patterns have been described, so far.

Selected References for HS-351 004

Fibrinogen Induces Microglia-Mediated Spine Elimination and Cognitive Impairment in an Alzheimer's Disease Model.
Merlini M, Rafalski VA, Rios Coronado PE, Gill TM, Ellisman M, Muthukumar G, Subramanian KS, Ryu JK, Syme CA, Davalos D, Seeley WW, et al.
Neuron (2019) : . . **IHC; tested species: human**

CD8+ T cells target cerebrovasculature in children with cerebral malaria.
Riggle BA, Manglani M, Maric D, Johnson KR, Lee MH, Lopes Abath Neto O, Taylor TE, Seydel KB, Nath A, Miller LH, McGavern DB, et al.
The Journal of clinical investigation (2019) : . . **IHC-P; tested species: human**

Role of A Novel Angiogenesis FKBPL-CD44 Pathway in Preeclampsia Risk Stratification and Mesenchymal Stem Cell Treatment.
Todd N, McNally R, Alqudah A, Jerotic D, Suvakov S, Obradovic D, Hoch D, Hombrebueno JR, Campos GL, Watson CJ, Gojnic-Dugalic M, et al.
The Journal of clinical endocrinology and metabolism (2021) 1061: 26-41. . **IHC-P; tested species: human**

Selected General References

PECAM-1: regulator of endothelial junctional integrity.
Privratsky JR, Newman PJ
Cell and tissue research (2014) 3553: 607-19. .

PECAM-1: old friend, new partners.
Ilan N, Madri JA
Current opinion in cell biology (2003) 155: 515-24. .

Biochemical characterization of PECAM-1 (CD31 antigen) on human platelets.
Metzelaar MJ, Korteweg J, Sixma JJ, Nieuwenhuis HK
Thrombosis and haemostasis (1991) 666: 700-7. .

PECAM-1 (CD31) cloning and relation to adhesion molecules of the immunoglobulin gene superfamily.
Newman PJ, Berndt MC, Gorski J, White GC, Lyman S, Paddock C, Muller WA
Science (New York, N.Y.) (1990) 2474947: 1219-22. .

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 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.