

Datasheet for 100-401-GN4S**CD31 Antibody****Overview**

Description:	Anti-CD31 (RABBIT) Antibody - 100-401-GN4S
Item No.:	100-401-GN4S
Size:	25 µL
Applications:	ELISA, IHC, WB, IF
Reactivity:	Human, Mouse
Host Species:	Rabbit

Product Details

Background:	Anti-CD31 antibody was designed, produced, and validated as part of the Joy Cappel Young Investigator Award (JCYIA). CD31 (PECAM-1) is a 130 kDa platelet endothelial cell adhesion molecule encoded by the PECAM1 gene found on chromosome 17 in humans. CD31 is expressed on platelets, monocytes, neutrophils, and some types of T-cells, and makes up a large portion of endothelial cell intercellular junctions. CD31 plays a key role in modulation of integrin-mediated cell adhesion, leukocyte transendothelial migration, angiogenesis, apoptosis and macrophage phagocytosis. CD31 is also expressed in certain tumors, including epithelioid hemangioendothelioma, epithelioid sarcoma-like hemangioendothelioma, other vascular tumors, histiocytic malignancies, and plasmacytomas. Anti-CD31 is ideal for researchers interested in Stem Cell Research, Epigenetics, and Cell-cycle Regulation research.
Synonyms:	rabbit anti-CD31 Antibody, rabbit anti-PECAM-1 antibody, Platelet endothelial cell adhesion molecule, PECAM-1, EndoCAM, GPIIA ¹ , PECA1, CD31 Antibody, PECAM1 Antibody, CD31/PECAM1 Antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Gene Name:	Pecam1
Reactivity:	Human, Mouse

Immunogen Type:	Conjugated Peptide
Immunogen:	This antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to the C-terminal domain of rat CD31 protein.
Purity/Specificity:	CD31 PECAM1 antibody is directed against rat CD31 protein. The product is delipidated and defibrinated antiserum. A BLAST analysis was used to suggest cross-reactivity with CD31 from rat, human, and mouse based on a 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.
Relevant Links:	• UniProtKB - Q3SWT0 • NCBI - NP_113779.1 • GeneID - 29583

Application Details

Tested Applications:	ELISA, IHC, WB
Suggested Applications:	IF (Based on references)
Application Note:	CD31 antibody has been tested for use in ELISA, immunohistochemistry, and by western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 80 kDa in size corresponding to CD31 protein by western blotting in the appropriate stimulated tissue or cell lysate or extract.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:20,000
IHC:	4µg/mL
WB:	1:500

Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	90 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

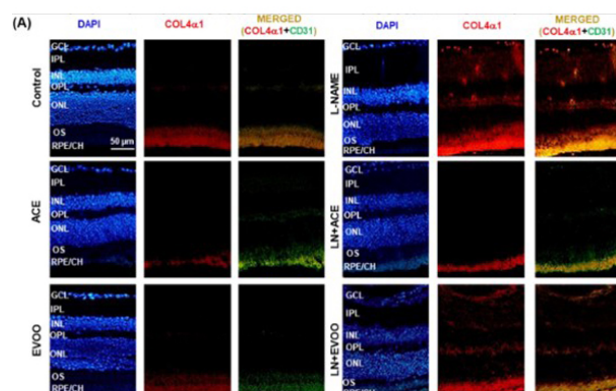
Shipping & Handling

Shipping Condition: Dry Ice

Storage Condition: Store vial at -20° C or below prior to opening. This vial contains a relatively low volume of reagent (25 μ L). To minimize loss of volume dilute 1:10 by adding 225 μ L of the buffer stated above directly to the vial. Recap, mix thoroughly and briefly centrifuge to collect the volume at the bottom of the vial. Use this intermediate dilution when calculating final dilutions as recommended below. Store the vial at -20°C or below after dilution. Avoid cycles of freezing and thawing.

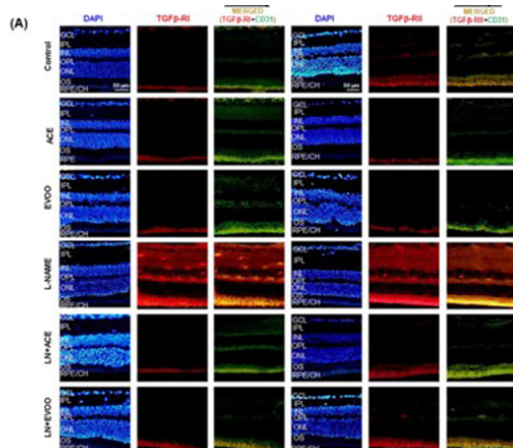
Expiration: Expiration date is one (1) year from date of receipt.

Images



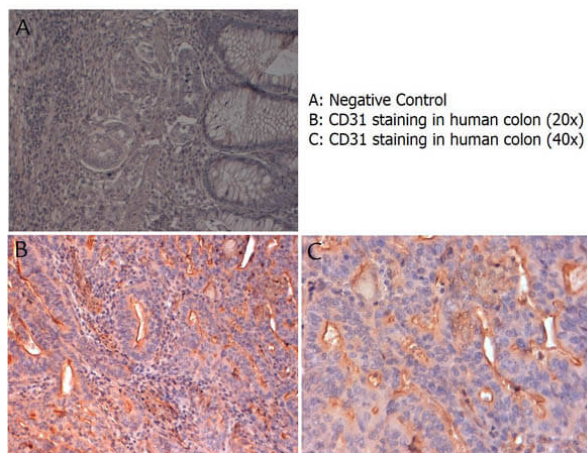
Immunofluorescence Microscopy

A) Col4 α 1 expression (red color) and double staining with endothelial marker (anti-CD31, green color) in retinal layers from each experimental group, where the merge is represented in yellow color. Nuclei staining with DAPI (blue color) was used to delimit the different retinal layers. Magnification: 10 $\times$. GCL, ganglion cell layer; IPL, inner plexiform layer; INL, inner nuclear layer; OPL, outer plexiform layer; ONL, outer nuclear layer; OS, outer segments; RPE/CH, retinal pigment epithelium/choroid. Fig 2. PMID: 38044285



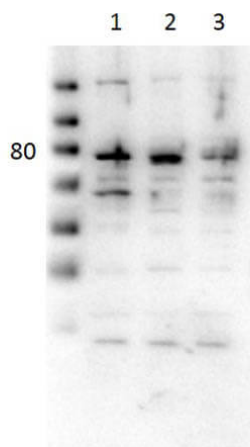
Immunofluorescence Microscopy

Shows the immunolocalization of TGF β -RI and TGF β -RII isoforms in the retina and their association with retinal endothelial cells. Immunofluorescence signals were generally weak in all groups except in non-supplemented hypertensive mice (L-NAME group). In addition, merged colocalization signals between TGF β -R isoforms and the endothelial marker CD31 demonstrated the presence of TGF β receptors mainly in retinal endothelial cells. A) Localization and expression of TGF β family receptors TGF β -RI (left) and TGF β -RII (right) explored by immunolocalization (red color) and double staining with CD-31 (green color) in retinal layers, where the merge is represented in yellow color. Nuclei staining with DAPI (blue color) was used to delimit the different retinal layers. Magnification: 10 $\times$. Fig 6. PMID: 38044285



Immunohistochemistry

Immunohistochemistry with anti-CD31 antibody showing CD31 staining of vascular endothelium in human colon at 20x and 40x (B & C). Formalin fixed/paraffin embedded sections were subjected to heat induced epitope retrieval (HIER) at pH 6.2 and then incubated with rabbit anti-human CD31 antibody at 4.0 µg/ml for 60 minutes. The reaction was developed using MACH 1 universal HRP polymer detection system and visualized with 3'3-diamino-benzidine substrate (DAB).



Western Blot

Western Blot of Rabbit Anti-CD31 Antibody. Lane 1: 3T3 Whole cell lysate (p/n W10-000-358). Lane 2: Jurkat Whole cell lysate (p/n W09-001-370). Lane 3: HT-29 Whole cell lysate (p/n W09-001-BS0). Load: 10µg/lane. Primary Antibody Anti-CD-31 used 1:500 with 0.75% TBS with Casein overnight. Secondary Antibody Goat anti-rabbit HRP (p/n 611-103-122) used 1:40,000 for 30 min at room temp. Expect MW: 80kda.

References

- Santana-Garrido A et al. Exploring the Potential of Wild Olive (Acebuche) Oil as a Pharm-Food to Prevent Ocular Hypertension and Fibrotic Events in the Retina of Hypertensive Mice. *Mol Nutr Food Res.* (2024)

Disclaimer

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