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www.rockland.com
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+1 484.791.3823

Datasheet for 600-101-MN4

Collagen Type IV Antibody

Overview

Description:	Anti-Collagen Type IV (GOAT) Antibody - 600-101-MN4
Item No.:	600-101-MN4
Size:	100 µg
Applications:	ELISA, IF, IHC
Reactivity:	Mouse
Host Species:	Goat

Product Details

Background:	Collagens are highly conserved throughout evolution and are characterized by an uninterrupted ''Glycine-X-Y'' triplet repeat that is a necessary part of the triple helical structure. For these reasons, it is often extremely difficult to generate antibodies with specificities to collagens. The development of 'type' specific antibodies is dependent on NON-DENATURED three-dimensional epitopes. Collagen Type IV proteins are integral components of basement membranes. This type of collagen is found primarily in the basal lamina. The type IV collagen C4 domain at the C-terminus is not removed in post-translational processing, and the fibers link head-to-head, rather than in parallel. Also, collagen type IV lacks the regular glycine in every third residue necessary for the tight, collagen helix. This makes the overall arrangement more sloppy with kinks. These two features cause collagen IV to form in a sheet, the form of the basal lamina. Mutations in this gene cause porencephaly, cerebrovascular disease, and renal and muscular defects. Anti-Collagen Type IV Antibody is ideal for researchers involved in extracellular matrix proteins and nephritis.
Synonyms:	Arresten antibody, Canstatin antibody, Collagen Of Basement Membrane Alpha 1 Chain antibody, alpha unit Collagen IV Type IV Collagen, Col4, Collagen alpha-1(IV) chain
Host Species:	Goat
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	COL4A1

Reactivity:	Mouse
Immunogen Type:	Conjugated Peptide
Immunogen:	Anti-Collagen IV antibody was prepared from whole goat serum produced by repeated immunizations with a synthetic peptide corresponding to an internal region near aa 240-265 of mouse Collagen IV.
Purity/Specificity:	This affinity purified antibody is directed against mouse Collagen IV. This product was affinity purified from monospecific antiserum by immunoaffinity purification. Blast analysis of the sequence of the immunogen shows 100% identity with mouse and 78.6% identity with human.
Relevant Links:	• 600-101-MN4 SDS • NCBI - NP_034061.2 • UniProtKB - P02463 • GeneID - 12826 • Protocol

Application Details

Tested Applications:	ELISA, IF, IHC
Application Note:	Anti-Collagen IV antibody has tested in ELISA, IF, and IHC. This antibody is suitable in western blot, expect a band at ~160kDa in western blot using appropriate tissues or lysates. Positive control used mouse placenta and mouse testes in immunohistochemistry, and NIH/3T3 in immunofluorescence.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	Starting dilution 5 µg/mL
IF:	5-15 µg/mL
IHC:	1:100 - see expanded information below
WB:	User Optimized
Other:	Ideal Conditions for Collagen IV on Mouse and Placenta HIER pH 6.0 for 20 mins at 1:100 dilution using Horse anti Goat secondary and Proteinase k shows good staining on mouse placenta. Link here HIER pH 9.0 for 20 mins at 1:100 dilution using Horse anti Goat secondary and Proteinase k shows good staining on mouse testis . Link here

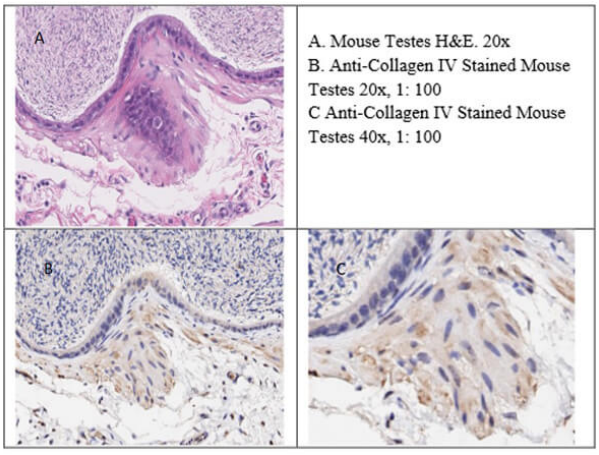
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.18 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

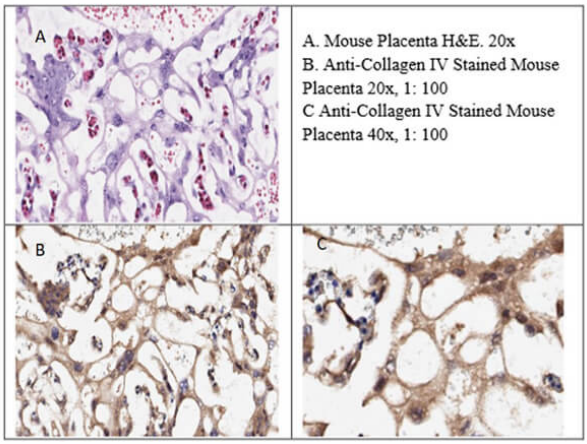
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images

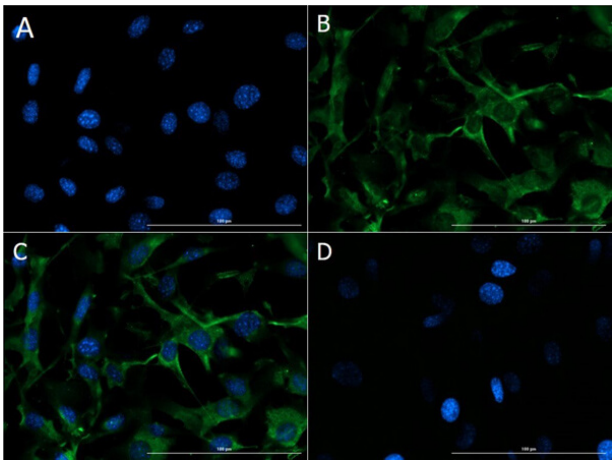


Immunohistochemistry
Immunohistochemistry of Goat Anti-Collagen Type IV Antibody. Tissue: Mouse Testes. Fixative: None. Antigen Retrieval: HIER using Citrate Buffer for 20min. Primary Antibody: Anti-Collagen Type IV at 1:100 for 30 min at RT. Secondary Antibody: Donkey Anti-Goat IgG HRP at 4µL/mL for 20 in at RT. Counterstain: Hematoxylin. Substrate: DAB. Results: shows moderate staining of Leydig cells and no significant staining of the seminiferous tubules.



A. Mouse Placenta H&E. 20x
B. Anti-Collagen IV Stained Mouse Placenta 20x, 1: 100
C Anti-Collagen IV Stained Mouse Placenta 40x, 1: 100

Immunohistochemistry
Immunohistochemistry of Goat Anti-Collagen Type IV Antibody. Tissue: Mouse Placenta. Fixative: None. Antigen Retrieval: HIER using Citrate Buffer for 20min. Primary Antibody: Anti-Collagen Type IV at 1:100 for 30 min at RT. Secondary Antibody: Donkey Anti-Goat IgG HRP at 4µL/mL for 20 in at RT. Counterstain: Hematoxylin. Substrate: DAB. Results: shows intense staining of trophoblastic cells and endothelial cells.



Immunofluorescence Microscopy
Immunofluorescence of Goat Anti-Collagen Type IV Antibody. Cells: NIH/3T3 cells. Fixative: 4%PFA. Permeabilization: None. Primary Antibody: Anti-Collagen Type IV at 15µg/mL overnight at 2-8°C. Counterstain: Donkey Anti-Goat IgG Dylight™488 (p/n 605-741-125) at 5µg/mL for 1hr at RT. Nuclear Counterstain: DAPI. Staining: (A) DAPI. (B) Anti-Collagen Tye IV + Dylight™488. (C) Merge A +B. (D) secondary only. Expected localization: Extracellular, ER.

References

- Stewart CA et el. A stretch-responsive fibroblast program promotes epidermal stem cell self-renewal during skin expansion. *Nat Commun.* (2026)

Disclaimer

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