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Datasheet for 600-406-106

Collagen Type IV Antibody Biotin Conjugated

Overview

Description:	Anti-Collagen Type IV (RABBIT) Antibody Biotin Conjugated - 600-406-106
Item No.:	600-406-106
Size:	100 µg
Applications:	IHC, Multiplex
Reactivity:	Human, Bovine
Host Species:	Rabbit

Product Details

Background:	Anti-Collagen Type IV detects collagen. Type-IV collagen is a type of collagen found primarily in the basal lamina. It is the major structural element of basal membranes. Anti-Collagen Type IV antibody is ideal for investigators involved in Cell Signaling, Neuroscience and Signal Transduction research.
Synonyms:	rabbit anti-Collagen Type IV antibody biotin conjugation, biotin conjugated rabbit anti-Collagen Type IV antibody, Arresten antibody, Canstatin antibody, Collagen Of Basement Membrane Alpha 1 Chain antibody, Collagen alpha-1 (IV) chain, COL4A1
Host Species:	Rabbit
Conjugate:	Biotin
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	COL4A1-COL4A6
Reactivity:	Human, Bovine
Immunogen Type:	Native Protein
Immunogen:	Anti-Collagen Type IV was produced by repeated immunizations with Collagen Type IV from human and bovine placenta.

Purity/Specificity:	Anti-Collagen Type IV has been prepared by immunoaffinity chromatography using immobilized antigens followed by extensive cross-adsorption against other collagens, human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities. Some class-specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues. This antibody reacts with most mammalian Type IV collagens and has negligible cross-reactivity with Type I, II, III, V and VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.
Relevant Links:	• NCBI - NP_001290039.1 • UniProtKB - P02462 • GeneID - 1282

Application Details

Suggested Applications:	IHC, Multiplex (Based on references)
Application Note:	Anti-Collagen Type IV is suitable for western blotting, IHC and for ELISA. Researchers should determine optimal titers for applications that are not stated below.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:2,000 - 1:10,000
IHC:	1:1,000 - 1:5,000
IP:	1:100
WB:	1:200 - 1:1000

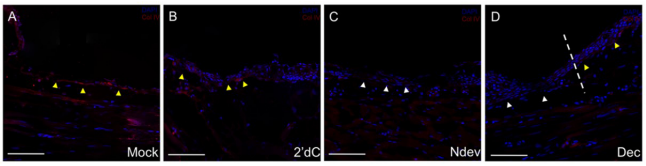
Formulation

Physical State:	Lyophilized
Concentration:	1 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:	10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free
Reconstitution Volume:	100 µL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

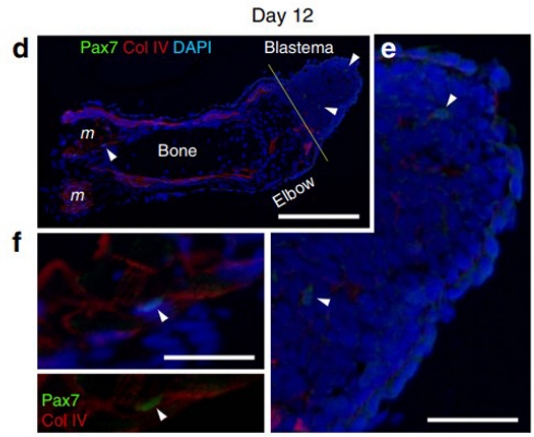
Shipping & Handling

Shipping Condition:	Ambient
Storage Condition:	Store vial at 4° C prior to restoration. Restore with 0.1 mL of deionized water (or equivalent). For extended storage aliquot contents and freeze at -20° C or below. 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.

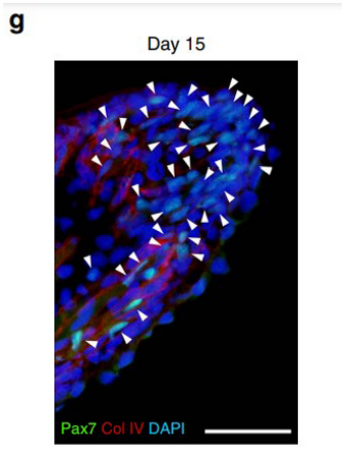
Images



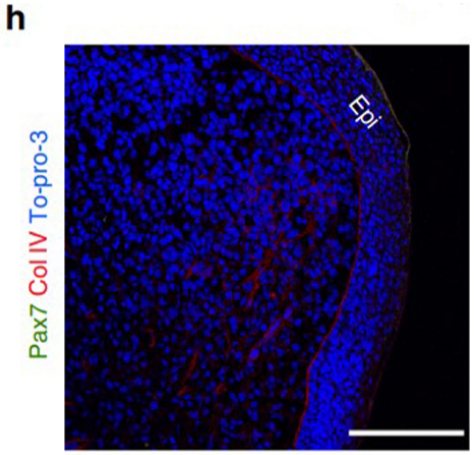
Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
Inhibition of Collagen IV expression in decitabine-treated wound epithelia. Immunohistochemistry staining for Collagen IV, a marker for the basal lamina, in wounds six days post-surgery. Wounds were either untreated (A, mock); received an implanted bead containing 2'deoxycytidine without a deviated nerve (B, 2'dC); received a surgically deviated nerve to induce formation of an ectopic blastema (C, NDev); or received an implanted bead containing decitabine without a deviated nerve (D, Dec). White arrowheads indicate areas within the wound that are negative for ColIV staining; yellow arrowheads indicate areas that are positive for Col IV staining. Dotted line in (D) indicates the transition between the uninjured skin (right) and the wound (left). Scale bars = 200 microns. Fig 5. PMID: 26308461.



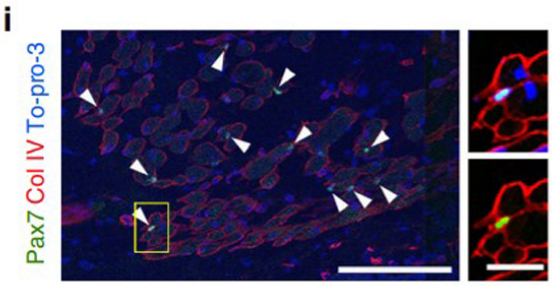
Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
SMFC tracking in larval newt limb regeneration. (d–f) Pax7 immunolabelling of regenerating limbs on day 12 (n ¼ 3) after amputation. (d) On day 12, a few Pax7 þ nuclei (arrowheads) were detected in blastema cells and in satellite cells along the muscle fibers. Col IV, collagen type IV immunoreactivity. DAPI (4,6-diamidino-2-phenylindole), nuclei. Scale bar, 300 mm. The Pax7 þ nuclei pointed by arrowheads were enlarged in e and f, respectively. Scale bars, 100 mm. Figure 1, PMID: 27026263.



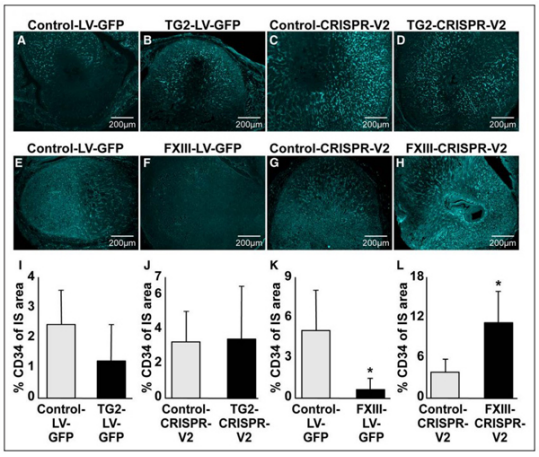
Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
SMFC tracking in larval newt limb regeneration. (g) On day 15 when the regenerating part of the limb grew more distally, the number of Pax7 þ nuclei (arrowheads) in the blastema was dramatically increased. Scale bar, 100 mm. Figure 1, PMID: 27026263.



Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
SMFC tracking in metamorphosed newt limb regeneration. Merged fluorescence image. Pax7; Col IV, collagen type IV immunoreactivity; To-pro-3: nuclei.
(h) Enlargement of a region in the blastema. Scale bars, 250 mm. Figure 3, PMID: 27026263.



Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
SMFC tracking in metamorphosed newt limb regeneration. Merged fluorescence image. Pax7; Col IV, collagen type IV immunoreactivity; To-pro-3: nuclei.
(i) Enlargement of a region proximal to the amputation site. Scale bars, 250 mm. Arrowheads indicate Pax7 þ nuclei. An example satellite cell (box) is enlarged in the right-hand panels (upper: Col VI/To-pro-3; lower: Col IV/Pax7). Scale bar, 50mm. Figure 3, PMID: 27026263.



Immunohistochemistry
Immunohistochemistry of Anti-Collagen Type IV Antibody Biotin Conjugated.
Microvascular evaluation of the implantation site (IS) with transgenic embryos. Immunostaining for CD34 (cluster of differentiation 34) in ISs of genetically modified trophoblast cells (TC) expressing the control vector (LV-GFP [lentivirusgreen fluorescent protein], A and E; CRISPR-V2, C and G, both 4 dams, 10 ISs), overexpressing tissue TG (TG2) (TG2-LV-GFP; B, 4 dams, 12 ISs), depleted from TG2 (tissue TG; D, 3 dams, 10 ISs), overexpressing FXIII (factor XIII; F, 5 dams, 19 ISs) or depleted from FXIII (H, 4 dams, 12 ISs). CD34 was visualized by cyan fluorescence channel after labeled with Cy5-avidin. Similar exposure time was used for each section and its appropriate control. Quantitative analysis of % CD34 staining in relation to IS area of genetically modified TC overexpressing TG2 (I), depleted from TG2 (J), overexpressing FXIII (K) or depleted from FXIII (L). Image scale bars are 200 µm.
Fibrinogen was clearly detected in the anti-mesometrial pole and adjacent to control embryonic TC (Figure 5A, upper part). Increased fibrinogen deposition was detected in IS of FXIII-overexpressing TC, particularly in the IS circumference, while fibrinogen was diminished at the embryonic vicinity (Figure 5B, upper part), as compared with control. CIV localization on the control IS (Figure 5A, lower part) was confined to the anti-mesometrial pole and around the primary decidual zone, while a substantial wider partition was displayed on the FXIII overexpressed TC (Figure 5B, lower part). Inversely to the IS with FXIII overexpressed TC, fibrinogen and Collagen Type IV were hardly detected in IS with FXIII-depleted TC (Figure 5D) relative to control (Figure 5C).
Figure 5, PMID: 31189431.

References

- Cohen G at el. Magnetic Resonance Imaging Reveals Distinct Roles for Tissue Transglutaminase and Factor XIII in Maternal Angiogenesis During Early Mouse Pregnancy. *Arterioscler Thromb Vasc Biol.* (2019)
- Tanaka et al. A developmentally regulated switch from stem cells to dedifferentiation for limb muscle regeneration in newts. *Nature Communications* (2016)
- Aguilar et al. DNA Methylation Dynamics Regulate the Formation of a Regenerative Wound Epithelium during Axolotl Limb Regeneration. *PLOS One* (2015)

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