

Product Datasheet

Collagen Type IV Antibody (orb345352)

Catalog Number	orb345352
Category	Antibodies
Description	Collagen IV antibody
Clonality	Polyclonal
Species/Host	Rabbit
Isotype	IgG
Conjugation	Unconjugated
Reactivity	Bovine, Human
Form/Appearance	Liquid (sterile filtered)
Concentration	1.18 mg/mL
Buffer/Preservatives	Preservative: 0.01% (w/v) Sodium Azide. Stabilizer: None; Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Purity	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 or VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.
Immunogen	Collagen Type IV from human and bovine placenta

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UniProt ID**P02462****Tested applications**

DOT, ELISA, IHC, IP, WB

Dilution range

ELISA: 1:5,000 - 1:50,000, IHC: 1:50 - 1:200, IP: 1:100, WB: 1:1,000 - 1:10,000

Application notes

Anti-Collagen Type IV has been tested by dot blot and IHC and is suitable for indirect trapping ELISA for quantitation of antigen in serum using a standard curve, immunoprecipitation, native (non-denaturing, non-dissociating) PAGE, immunohistochemistry, and western blotting for highly sensitive qualitative analysis.

Antibody Type

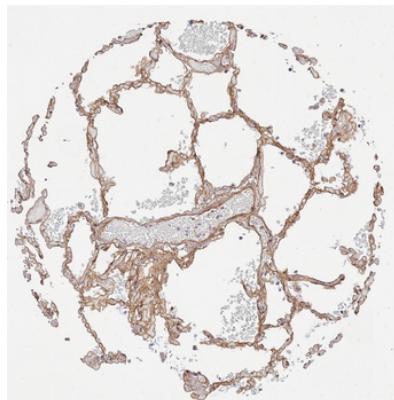
Primary Antibody

Storage

Store vial at 4° C prior to opening. This product is stable at 4° C as an undiluted liquid. Dilute only prior to immediate use. For extended storage, mix with an equal volume of glycerol, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing.

Note

For research use only

NCBI**NP_001290039.1**

Immunohistochemistry results of Rabbit Anti-Collagen Type IV Antibody. Tissue: human lung tissue. Fixation: FFPE. Antigen Retrieval: HIER using Tris-EDTA-citrate buffer pH7.8 for 5 min. Blocking: Peroxidase-Blocking Solution for 10 min. Primary Antibody: Anti-Collagen Type IV (p/n orb345352) at 1:15 for 1 hr at 37 °C. Secondary Antibody: Dako REAL EnVision Detection Kit, Polymer-HRP, Rabbit/Mouse. Counterstain: Hematoxylin for 15 sec. Substrate: DAB-Chromogen, Rabbit/Mouse. Staining/Results: basement membranes and vessels.

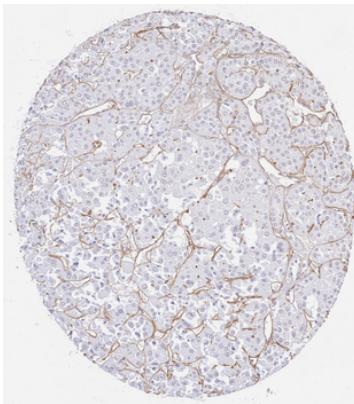
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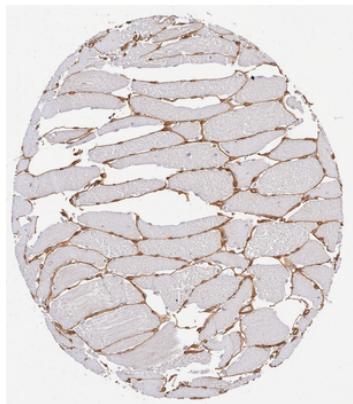
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Immunohistochemistry results of Rabbit Anti-Collagen Type IV Antibody. Tissue: human renal oncocytoma. Fixation: FFPE. Antigen Retrieval: HIER using Tris-EDTA-citrate buffer pH7.8 for 5 min. Blocking: Peroxidase-Blocking Solution for 10 min. Primary Antibody: Anti-Collagen Type IV (p/n orb345352) at 1:15 for 1 hr at 37 °C. Secondary Antibody: Dako REAL EnVision Detection Kit, Polymer-HRP, Rabbit/Mouse. Counterstain: Hematoxylin for 15 sec. Substrate: DAB-Chromogen, Rabbit/Mouse. Staining/Results: dense collagen IV positive membranes surrounding tumor cell nests.



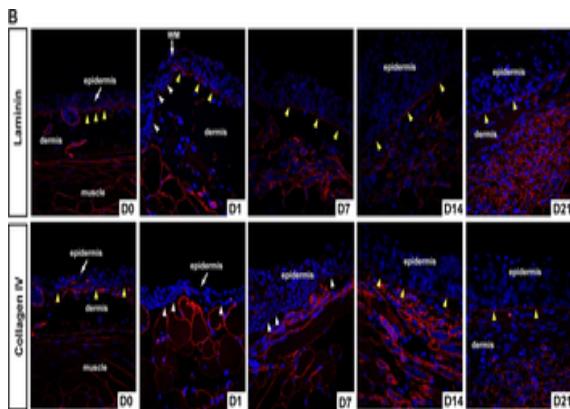
Immunohistochemistry results of Rabbit Anti-Collagen Type IV Antibody. Tissue: human skeletal muscle cells. Fixation: FFPE. Antigen Retrieval: HIER using Tris-EDTA-citrate buffer pH7.8 for 5 min. Blocking: Peroxidase-Blocking Solution for 10 min. Primary Antibody: Anti-Collagen Type IV (p/n orb345352) at 1:15 for 1 hr at 37 °C. Secondary Antibody: Dako REAL EnVision Detection Kit, Polymer-HRP, Rabbit/Mouse. Counterstain: Hematoxylin for 15 sec. Substrate: DAB-Chromogen, Rabbit/Mouse. Staining/Results: cells surrounded by collagen IV fibers.

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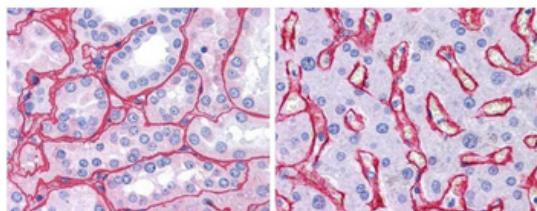
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Lamina lucida and lamina densa regenerate before new ECM deposition. A) Histological examination of basement membrane (BM) regeneration in axolotls. The uninjured BM is visible as a thick blue-stained fibrous band (yellow arrows). An immature BM has begun to reform (yellow arrow D1) after re-epithelialization and is visible at the wound margin (WM) in contrast to the uninjured BM. The regenerated BM is visible at D47. Yellow arrows at D7 and D21 indicate reforming BM. B) Examination of lamina lucida (laminin) and lamina densa (collagen type IV) during basement membrane regeneration. The uninjured BM is positive for laminin and collagen type IV (yellow arrows) as are the basement membranes surrounding glands and muscle fibers. Following re-epithelialization the basal lamina of the epidermis is negative for laminin and collagen type IV (white arrows) and this is clearly evident at the wound margin (WM). Seven days post injury the BM stains strongly for laminin indicating reformation of the lamina lucida, while staining for collagen type IV is punctuated. The lamina densa is regenerated by D14 based on continuous collagen type IV staining and persists during dermal regeneration.



Biorbyt anti collagen IV antibody (1:400, 45 min RT) showed strong staining in FFPE sections of human kidney (Left) with strong red staining observed in glomeruli; and liver (Right) with strong staining in sinusoids. Staining for both tissues was consistent with a basement membrane distribution. Slides were steamed in 0.01 M sodium citrate buffer, pH6.0 at 99-100°C - 20 minutes for antigen retrieval.

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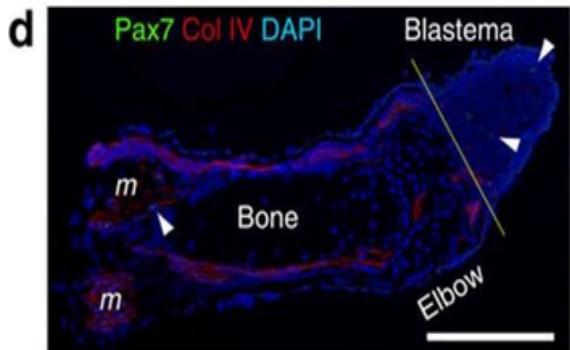
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Day 12



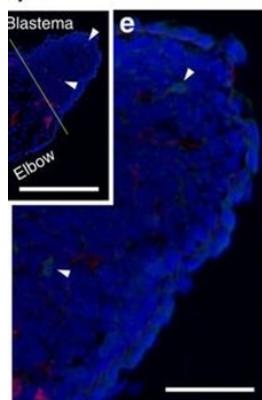
SMFC tracking in larval newt limb regeneration. (a) Larva (3 months old). It has four limbs, as well as the gills and tail fin. Scale bar, 4 mm. (b) Monitoring of SMFCs (mCherry+) during limb regeneration ($n = 6$). mCherry was not detected in the regenerating part of the limb until ~ 30 days when the amputated limb had almost been recovered. Arrowheads: flexor muscle for digits. Scale bar, 1 mm. (c) Sections of regenerating limbs ($n = 3$ for each stage). SMFC-derived mCherry+ cells were not observed in the blastema. Lines: amputation site. m: muscle. Scale bar, 100 μ m. (d-f) Pax7 immunolabelling of regenerating limbs on day 12 ($n = 3$) and (g) day 15 ($n = 3$) after amputation. (d) On day 12, a few Pax7+ nuclei (arrowheads) were detected in blastema cells and in satellite cells along the muscle fibres. Col IV, collagen type IV immunoreactivity. DAPI (4, 6-diamidino-2-phenylindole), nuclei. Scale bar, 300 μ m. The Pax7+ nuclei pointed by arrowheads were enlarged in e and f, respectively. Scale bars, 100 μ m. (g) On day 15 when the regenerating part of the limb grew more distally, the number of Pax7+ nuclei (arrowheads) in the blastema was dramatically increased. Scale bar, 100 μ m. (h) Summary. In larval newts, MPCs, potentially satellite cells, were recruited for new muscle during limb regeneration, whereas SMFCs were not.

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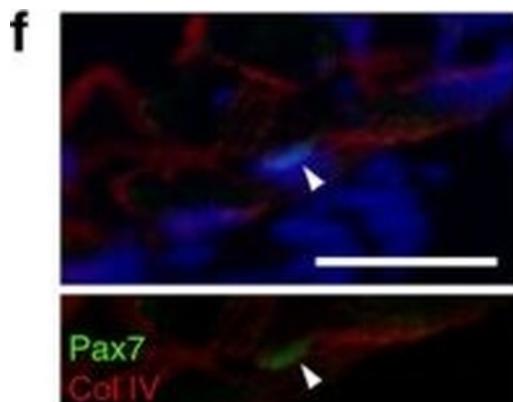
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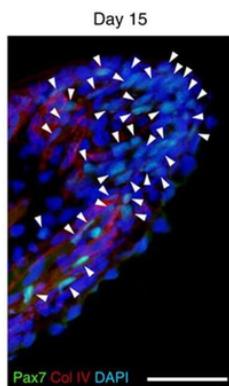
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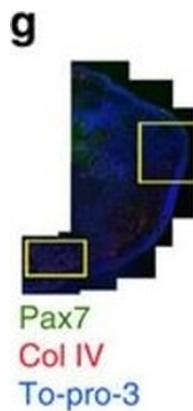
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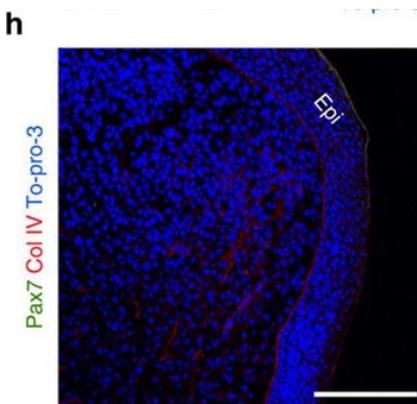
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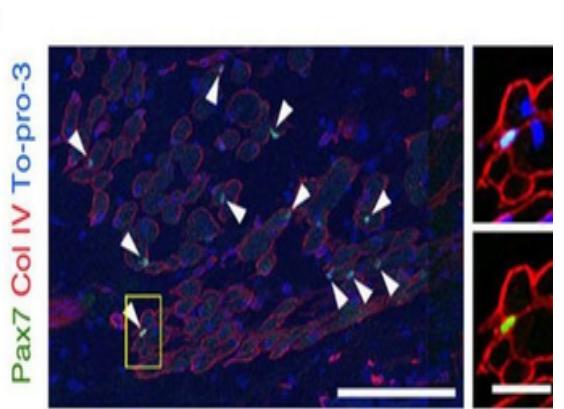
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