Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 600-406-103

Collagen Type I Antibody Biotin Conjugated

Overview

Description:	Anti-Collagen Type I (RABBIT) Antibody Biotin Conjugated - 600-406-103
Item No.:	600-406-103
Size:	100 µg
Applications:	Dot Blot, FC, Multiplex, ELISA, IF, IHC, WB
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	COLLAGEN Type I Antibody Biotin Conjugated is specific for Collagen Type I. Collagen Type I (Type-I collagen) is the most abundant collagen of the human body. It is present in scar tissue, the end product when tissue heals by repair. It is also found in tendons, the endomysium of myofibrils and the organic part of bone. Anti-collagen Type I antibody is suitable for Cancer research and other general research.
Synonyms:	rabbit anti-collagen type I antibody biotin conjugation, biotin conjugated rabbit anti-collagen type I antibody, Collagen Of Skin Tendon And Bone, Collagen Type 1 antibody, Collagen type I alpha 1 antibody, Collagen alpha-1 (I) chain, Alpha-1 type I collagen, type 1 procollagen alpha 1
Host Species:	Rabbit
Conjugate:	Biotin
Clonality:	Polyclonal
Format:	IgG
F/P Ratio:	10-20

Target Details

Gene Name:	COL1A1
Reactivity:	Human, Mouse, Rat
Immunogen Type:	Native Protein

Immunogen:	Collagen Type I from human and bovine placenta.
Purity/Specificity:	This product has been prepared by immunoaffinity chromatography using immobilized antigens. 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 I collagens and has expected cross-reactivity with Type III and negligible cross reactivity with Type II, IV, V or VI collagens. Non-specific cross-reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins has not been tested.
Relevant Links:	• NCBI - NP_000079.2 • UniProtKB - P02452 • GeneID - 1277

Application Details

Tested Applications:	Dot Blot, FC, Multiplex
Suggested Applications:	ELISA, IF, IHC, WB (Based on references)
Application Note:	Anti-COLLAGEN Type I Antibody Biotin Conjugated has been tested by dot blot and Flow Cytometry and is suitable for western blot, immunoprecipitation, Flow Cytometry, and immunohistochemistry. 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:	1:3,000 - 1:6,000
FC:	User Optimized
IHC:	1:50 - 1:200
IP:	1:100
WB:	1:3,000 - 1:6,000

Formulation

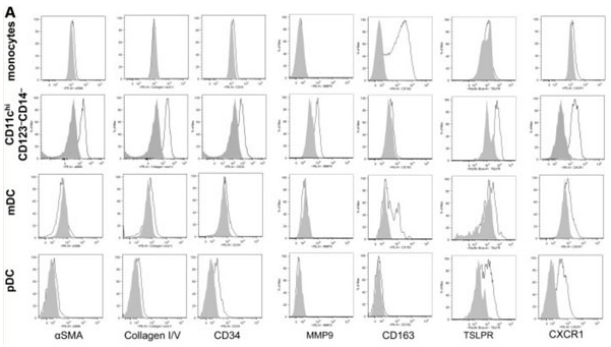
Physical State:	Lyophilized
Concentration:	1.0 mg/mL by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free

Reconstitution Volume:	100 µL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

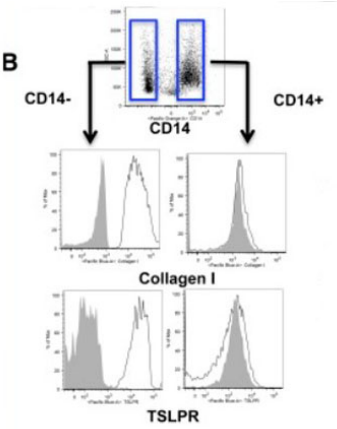
Shipping & Handling

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.

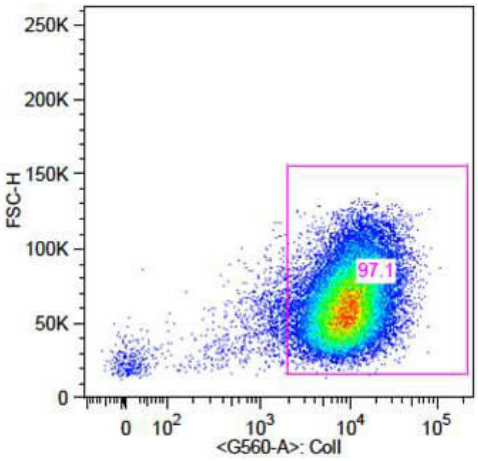
Images



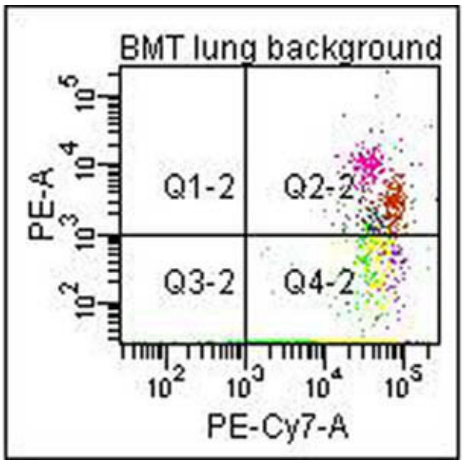
Flow Cytometry
Flow cytometry of Anti-Collagen Type I Antibody Biotin Conjugated.
Expanded CD11chiCD123–CD14– cells are fibrocytes that mediate angiogenesis. (A) Using the same gating strategy as shown in Figure 1A, CD11chiCD123–CD14– cells from a representative subject sample were analyzed for cell surface phenotype. The shaded areas represent background fluorescence on the designated population as indicated by FMO controls. This is representative of more than 10 experiments. Figure 2. PMID: 23757729.



Flow Cytometry
Flow Cytometry of Anti-Collagen Type I Antibody Biotin Conjugated.
IL-4 induces monocytes to differentiate into CD14– fibrocytes that are readily distinguished from CD14+ macrophages in the same culture. (B) Cell surface phenotype of IL-4–differentiated adherent cells identifies 2 subsets based on CD14 expression, which further shows differential expression of collagen and TSLPR. FMO controls on gated CD14+ vs CD14– populations are shown by shaded gray histograms. This is representative of more than 5 experiments from 5 separate healthy donors. Figure 5. PMID: 23757729.



Flow Cytometry
Flow Cytometry of Rabbit Anti-Collagen 1 Antibody. Cells: primary adult human dermal fibroblast cells. Stimulation: none. Primary antibody: Biotin-Conjugated Collagen 1 antibody (600-406-103) at 5µg/mL for 45 min at 4°C. Secondary antibody: Rabbit Streptavidin, R-PE antibody at 1:500 for 15 min at RT. Courtesy of D. Figueroa NIH.



Flow Cytometry
Flow Cytometry of Anti-Collagen Type I Biotin Conjugated Antibody (600-406-103). Showing a 7.4% of fibrocyte population in the mouse lung using CD45 and Col 1A1 double positive markers. In the experiment, we used Biotinated Collagen Type 1 (p/n 600-406-103) in combination with a PE-conjugated secondary antibody for flow cytometric analysis. Courtesy of Walden Ai, PhD, Univ of SC School of Medicine.

References

- D'Arcy Q et al. Beta-Sitosterol Alters Collagen Distribution in Prostate Fibroblasts. *J Diet Suppl.* (2024)
- D'Arcy Q et al. The IL-4/IL-13 signaling axis promotes prostatic fibrosis. *PLoS One.* (2022)
- D'alessandro-Gabazza, CN et al. Inhibition of lung microbiota-derived proapoptotic peptides ameliorates acute exacerbation of pulmonary fibrosis. *Nature Communications* (2022)
- Reinhardt, JW et al. Fibrocytes: A Critical Review and Practical Guide. *Frontiers in Immunology* (2021)
- Afroj T et al. Blockade of PD-1/PD-L1 Pathway Enhances the Antigen-Presenting Capacity of Fibrocytes. *J Immunol.* (2021)
- Oh, H et al. Effect of Orento, a Traditional Japanese Medicine, on IL-6, IL-8 Secretion, Type 1 Collagen Production and Alkaline Phosphatase Secretion in the Human Osteosarcoma Cell Line Saos-2. *Medicines (Basel, Switzerland)* (2020)
- Palano G et al. A high-content, in vitro cardiac fibrosis assay for high-throughput, phenotypic identification of compounds with anti-fibrotic activity. *J Mol Cell Cardiol.* (2020)
- Ozono Y et al. Monocyte-derived fibrocytes elimination had little contribution on liver fibrosis. *Hepatobiliary Pancreat Dis Int.* (2019)
- Kunimura K et al. S100A4 protein is essential for the development of mature microfold cells in Peyer's patches. *Cell Rep.* (2019)
- Heukels et al. Fibrocytes are increased in lung and peripheral blood of patients with idiopathic pulmonary fibrosis. *Respiratory Research* (2018)
- Matsushima S et al. MicroRNA-29c regulates apoptosis sensitivity via modulation of the cell-surface death receptor, Fas, in lung fibroblasts. *Am J Physiol Lung Cell Mol Physiol.* (2016)
- Collins et al. Vaccinia vaccine-based immunotherapy arrests and reverses established pulmonary fibrosis. *JCI Insight* (2016)
- Sinha et al. Cortactin promotes exosome secretion by controlling branched actin dynamics. *Journal of Cell Biology* (2016)
- Buyandelger et al. ZBTB17 (MIZ1) Is Important for the Cardiac Stress Response and a Novel Candidate Gene for Cardiomyopathy and Heart Failure. *Circulation: Cardiovascular Genetics* (2015)
- Zhang H et al. Fibrocytes represent a novel MDSC subset circulating in patients with metastatic cancer. *Blood* (2013)
- Gharaee-Kermani M et al. CXC-type chemokines promote myofibroblast phenoconversion and prostatic fibrosis. *PLoS One.* (2012)
- Hashimoto et al. Bone marrow–derived progenitor cells in pulmonary fibrosis. *Journal of Clinical Investigation* (2004)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.