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Datasheet for 009-001-103

Human Collagen Type I

Overview

Description:	Human Collagen Type I - 009-001-103
Item No.:	009-001-103
Size:	500 µg
Applications:	SDS-PAGE, WB, Cellular Assay
Origin:	Human

Product Details

Background:	Collagen type I is the fibrillar collagen found in most connective tissues, including cartilage. Collagen type I is a protein that strengthens and supports many tissues in the body, including cartilage, bone, tendon, skin and the white part of the eye (sclera).
Synonyms:	Type I collagen, collagen 1, human collagen
Species of Origin:	Human
Type:	Native Protein

Target Details

Gene Name:	COL1A1/COL1A2
Purity/Specificity:	Human Collagen type I has been prepared from human placenta and is chromatographically and immunologically pure. This product is free from other collagens, human serum proteins and non-collagen extracellular matrix proteins. Human Collagen type I reacts with anti-Collagen Type I. Reaction of Human Collagen type I with Rockland's anti-Collagen II, III, IV, V or VI is negligible.
Relevant Links:	• 009-001-103 SDS • UniProtKB - P08123 • UniProtKB - P02452 • NCBI - NP_000079.2 • GeneID - 1277

Application Details

Tested Applications:	SDS-PAGE, WB
Suggested Applications:	Cellular Assay (Based on references)
Application Note:	Human Collagen type I purified protein standard has been tested in SDS-PAGE and western blot. This product is suitable for ELISA and 2D culture. Collagen type I is recognized by type specific anti-collagen antibodies that recognize a native three-dimensional structure.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:10,000
IHC:	1:100-1:500
WB:	1:1000

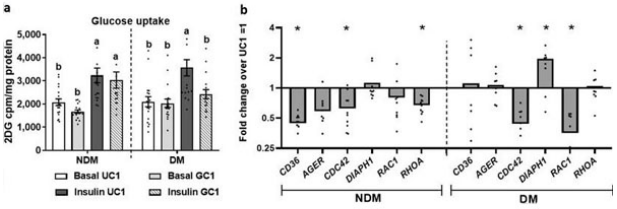
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/ml by nanodrop at 205 nm
Buffer:	0.5 M Acetic Acid
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

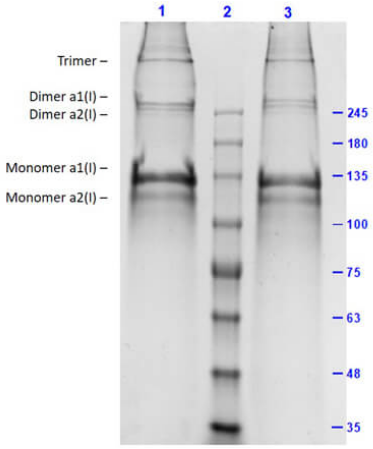
Shipping & Handling

Shipping Condition:	Wet Ice
Storage Condition:	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.
Expiration:	Expiration date is six (6) months from date of receipt.

Images

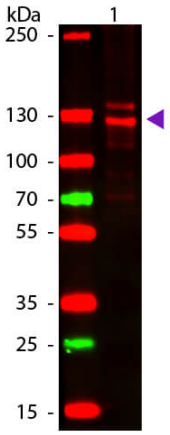


Glycated collagen 1 regulates adipocyte insulin signaling and Rho and AGE scavenger receptor expression. Preadipocytes from human VAT were differentiated into mature adipocytes in 2D culture +/− unglycated or glycated recombinant human collagen 1 (UC1, GC1), then studied with glucose uptake assay or RT-qPCR. (a) Glucose uptake in non-stimulated (basal) or insulin-stimulated conditions. Ordinate: mean glucose uptake measured by 3H-2D-glucose in cell lysates (cpm) normalized to cell lysate protein concentration (mg/ml); bars with different letters indicate $P < 0.050$; n = 15 NDM, 15 DM subjects. (b) Gene expression studied with RT-qPCR. Ordinate: mean fold difference in transcript level in GC1 arm relative to UC1 arm referent = 1; *$P < 0.050$, comparing transcript levels in GC1 arm vs. UC1 arm; n = 12 NDM, 12 DM subjects. Figure 2. PMID: 31875018.



SDS-PAGE

SDS-PAGE Results of Human Collagen Type I. Lane 1: Human Collagen Type I Reduced (5.0µg). Lane 2: Opal PRestained Molecular Weight Marker (p/n MB-210-0500). Lane 3: Human Collagen Type I Non-Reduced (5.0µg). 7.5% Gel, Coomassie Stained. Observed MW: Type I trimer, Type I dimer α1, α2, Type I monomer α1, α2.



Western Blot

Western blot of Human Collagen Type I. Lane 1: Human Collagen Type 1. Load: 50 ng per lane. Primary antibody: Collagen Type I antibody at 1:1,000 overnight at 4°C. Secondary antibody: DyLight™ 649 rabbit secondary antibody at 1:20,000 for 30 min at RT. Block: MB-070 for 30 min at RT. Predicted/Observed size: 139 & 130 kDa, 139 & 130 kDa for Collagen Type I. Other Band(s): Collagen Type I splice variants and isoforms.

References

- Molè MA et al. Modeling human embryo implantation in vitro. *Cell.* (2026)
- Ali RO et al. Role of HIV-1 in IL-8 response of human stellate cells to gram-positive microbial products. *Sci Rep.* (2026)
- Mukhitov AR et al. Extracellular Matrix and Fibroblast Activation in Lymphangioleiomyomatosis. *Am J Respir Cell Mol Riol.* (2026)
- Strieder-Barboza C et al. Advanced glycation end-products regulate extracellular matrix-adipocyte metabolic crosstalk in diabetes. *Sci Rep.* (2019)

Disclaimer

No test method can provide total assurance that the hepatitis B virus, hepatitis C virus, human immunodeficiency virus, or any other infectious agents are absent. Thus, all blood products, including purified proteins derived from human blood sources, should be handled at Biosafety Level 2 as recommended by the CDC\NIH manual entitled Biosafety in Microbiological and Biomedical Laboratories for potentially infectious human serum, blood specimens or proteins derived from same. Source material for the human blood product supplied to your facility has been tested for the detection of HIV antibody, Hepatitis B surface antigen, antibody to Hepatitis C, HIV 1 antigen(s), antibody to HTLV - I/II, and syphilis by FDA guidelines. All units were found to be non-reactive/negative for these tests. All human blood source material is collected in FDA licensed centers and is tested with FDA approved test kits.

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