Datasheet for 009-001-108

Human Collagen Type VI

Overview

Description:	Human Collagen Type VI - 009-001-108
Item No.:	009-001-108
Size:	500 µg
Applications:	Dot Blot, SDS-PAGE, WB, Cellular Assay, ELISA, IF
Origin:	Human

Product Details

Background:	Collagen type VI is a form of collagen primarily associated with the extracellular matrix of skeletal muscle. Collagen type VI is associated with the genes COL6A1, COL6A2, and COL6A3. Defects in collagen VI are associated with Bethlem myopathy and Ullrich congenital muscular dystrophy.
Synonyms:	Type VI collagen, collagen 6, human collagen, collagen VI
Species of Origin:	Human
Type:	Native Protein

Target Details

Gene Name:	COL6A1-COL6A3
Purity/Specificity:	Human Collagen type VI 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. This product reacts with anti-Collagen Type VI. Reaction with Rockland's anti-Collagen I, II, III, IV or V is negligible.
Relevant Links:	• UniProtKB - P12111 • UniProtKB - P12110 • 009-001-108 SDS • UniProtKB - P12109 • NCBI - NP_001839.2 • GeneID - 1291

Application Details

Tested Applications:	Dot Blot, SDS-PAGE, WB
Suggested Applications:	Cellular Assay, ELISA, IF (Based on references)
Application Note:	Human Collagen type VI purified protein standard has been tested in SDS-PAGE and is used as a control in ELISA and Western blot. Collagen type VI 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:	0.95 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

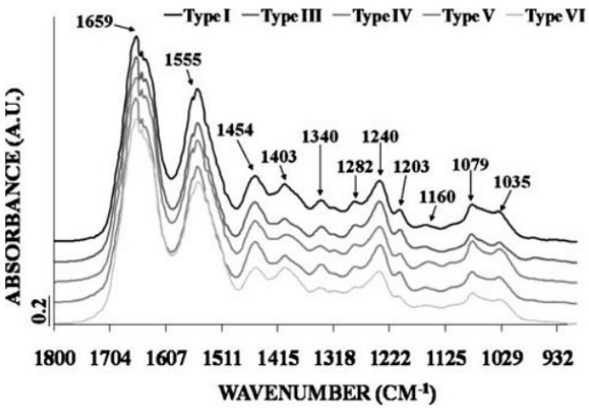


Figure
Fourier-transform infrared (FTIR) spectroscopy.
Mean FTIR spectra of the five collagen types. Maximal intensity.
Fig. 2. PMID: 19685340.

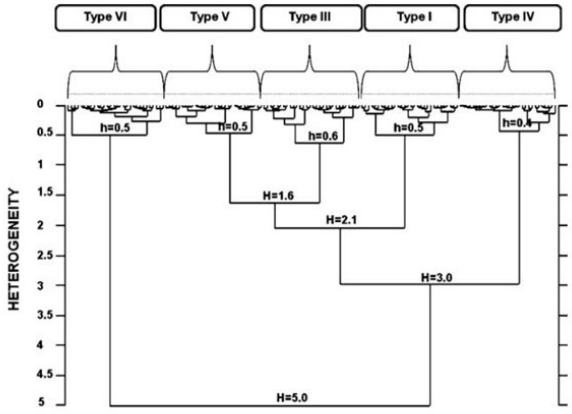


Figure
FTIR spectra classification model for the five collagen types. n=30 spectra/collagen type; four spectral intervals, 1,700–1,600 cm−1 , 1,480– 1,350 cm−1 , 1,300–1,180 cm−1 , and 1,100–1,005 cm−1 . h intracluster heterogeneity, H intercluster heterogeneity. Fig. 3. PMID: 19685340.

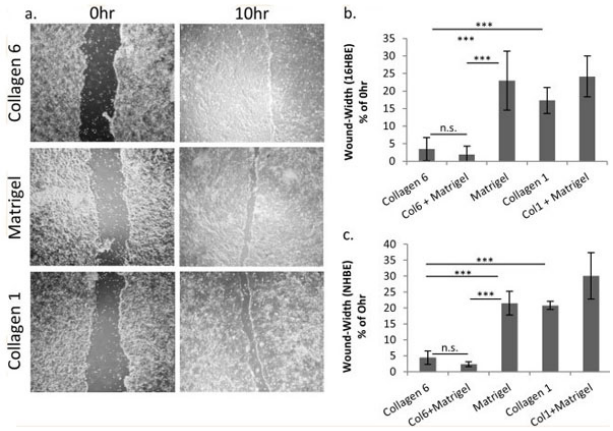


Figure
COL6 enhances lung epithelial cell wound repair.(a) Representative images of wound-healing response for 16HBE cells plated on COL6, Matrigel, or COL1. (b-c) Quantitation of wound width at 10 hr post-injury (relative to 0 hr) for 16HBE(b) and NHBE(c) plated on individual matrices, or combinations of matrices. N = 9, ** p<0.01, *** p<0.001. Fig 2. PMID: 30550606.

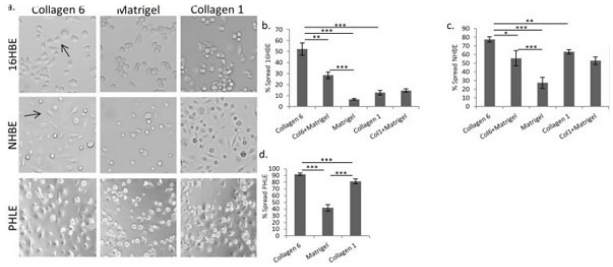


Figure
COL6 promotes lung epithelial cell spreading.(a) Representative images of initial, post-adhesion spreading for 16HBE human lung epithelial cells 3 hours after plating cells on COL6, COL1 or Matrigel. Arrows show examples of spread cells. (b-d) Quantitation of the percentage of cells spread 3 hours after plating on different matrices for 16HBE (b), NHBE (c), or PHLE (d) cells. N = 6.* p<0.05, ** p<0.01, *** p<0.001. Fig 3. PMID: 30550606.

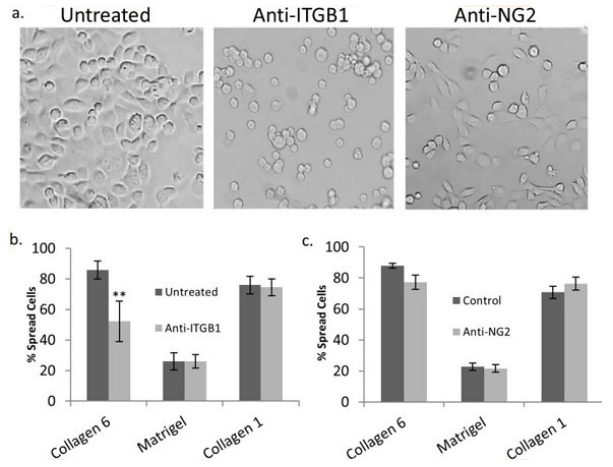
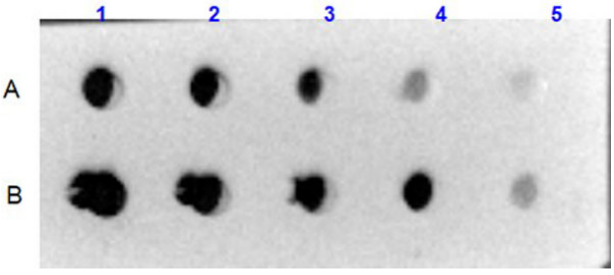
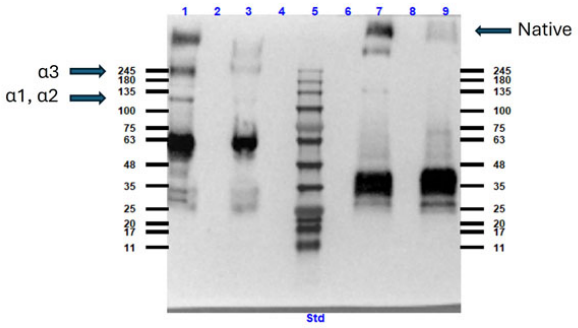


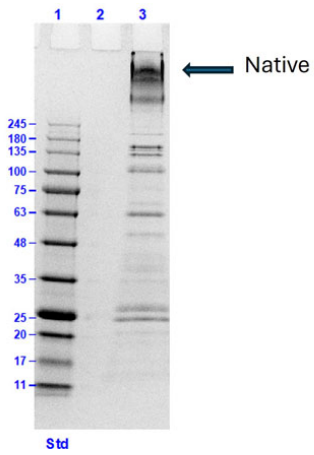
Figure
COL6-mediated spreading requires ITGB1, not NG2.(a) Representative images of untreated 16HBE cells, and 16HBE treated with anti-Integrin β1 or anti-NG2 antibodies 3 hours after plating on COL6. (b) Quantitation of untreated and anti-ITGB1 (b) or anti-NG2 (c) treated 16HBE spreading 3 hours after plating on COL6, COL1, Matrigel coated wells, and uncoated tissue-culture wells (n = 6). * p<0.05, ** p<0.01, *** p<0.001. Fig 4. PMID: 30550606.



Dot Blot
Dot Blot results using Rabbit Anti-Collagen VI Antibody.
Sample: A) Human Collagen VI (p/n 009-001-108), B) Bovine/Human Collagen VI (p/n 001-001-108).
Load: 1) 1000ng, 2) 333.33ng, 3) 111.11ng, 4) 37.03ng, 5) 12.35ng.
Primary Antibody: Rabbit Anti-Collagen VI antibody (p/n 600 -401-108) at 5µg/mL at RT for 1hr.
Secondary Antibody: Goat Anti-Rabbit IgG HRP Conjugated (p/n 611-1302) 1:40,000 at RT for 30mins.
Blocking: BlockOut® Universal Blocking Buffer (p/n MB-073) at RT for 30mins.



Western Blot
Western blot results using Rabbit Anti-Collagen Type VI Antibody.
Lane: 1) Human Collagen Type VI (p/n 009-001-108) reduced and boiled, 3) Human Collagen Type VI reduced and not boiled,5) Opal pre-stained molecular weight marker (p/n MB-210-0500), 7) Human Collagen Type VI not reduced and boiled, 9) Human Collagen Type VI not reduced and not boiled.
Lanes 2, 4, 6, 8 blank.
Load: 10µg.
Primary Antibody: Rabbit Anti-Collagen Type VI Antibody (p/n 600-401-108) 1:500 overnight at 2-8°C.
Secondary Antibody: Goat anti-Rabbit IgG HRP conjugated (p/n 611-1302) 1:40,000 at RT for 30mins.
Blocking: BlockOut® Universal Blocking Buffer (p/n MB-073) at RT for 1hr.



SDS-PAGE
SDS-PAGE results of Human Collagen Type VI.
Lane: 1) Opal prestain molecular weight marker (p/n MB-210 -0500), 2) blank, 3) Human Collagen Type VI (p/n 009-001-108) [10µg]. Coomassie stained.

References

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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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