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Datasheet for 009-001-106

Human Collagen Type IV

Overview

Description:	Human Collagen Type IV - 009-001-106
Item No.:	009-001-106
Size:	500 µg
Applications:	SDS-PAGE, ELISA
Origin:	Human

Product Details

Background:	Collagen type IV is a type of collagen found primarily in the basal lamina. The type IV collagen C4 domain at the C-terminus is not removed in post-translational processing, and the fibers link head-to-head, rather than in parallel. Also, collagen type IV lacks the regular glycine in every third residue necessary for the tight, collagen helix. This makes the overall arrangement more sloppy with kinks. These two features cause collagen IV to form in a sheet, the form of the basal lamina. There are six human genes associated with collagen IV: COL4A1, COL4A2, COL4A3, COL4A4, COL4A5 and COL4A6.
Synonyms:	Type IV collagen, collagen 4, human collagen, Collagen alpha-4 (IV) chain
Species of Origin:	Human
Type:	Native Protein

Target Details

Gene Name:	COL4A1-COL4A6
Purity/Specificity:	This product 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 IV. Reaction with Rockland's anti-Collagen I, II, III, V or VI is negligible.
Relevant Links:	• UniProtKB - P08572 • UniProtKB - P02462 • UniProtKB - P29400 • UniProtKB - Q01955

- UniProtKB - P53420
- UniProtKB - Q14031

Application Details

Tested Applications:	SDS-PAGE
Suggested Applications:	ELISA (Based on references)
Application Note:	Collagen type IV has been tested in SDS-Page and can be used as a control or standard in indirect trapping ELISA for quantitation of antigen using a standard curve, for immunoprecipitation and for other immunological assays as optimized by the user. Specific conditions should be optimized by user.
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

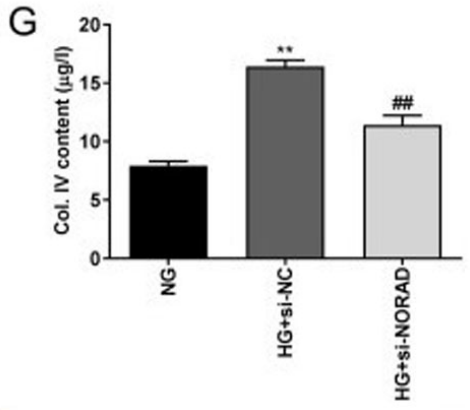
Formulation

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

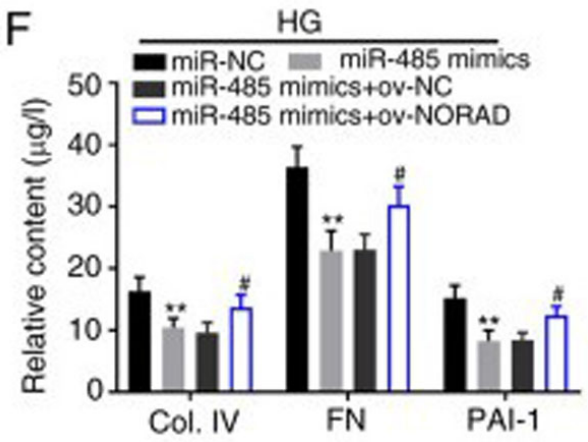
Shipping & Handling

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.

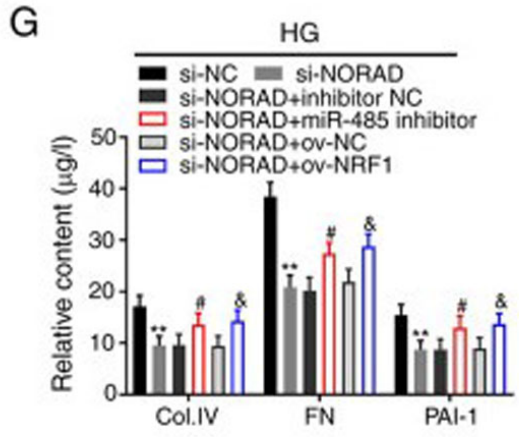
Images



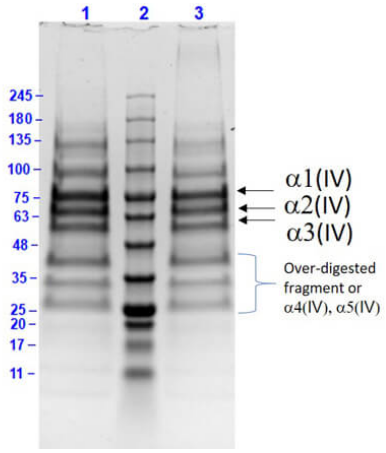
ELISA
Knockdown of NORAD inhibits proliferation, inflammation and fibrosis in HG-induced HMCs. Levels of (G) Col. IV in HMCs measured via ELISA. **P<0.01 vs. NG; ##P<0.01 vs. HG + si-NC.
NORAD, non-coding RNA activated by DNA damage; NG, normal glucose; HG, high glucose; HMCs, human mesangial cells; si, small interfering RNA; NC, negative control Col. IV, type IV collagen. Figure 2. PMID: 34194552.



ELISA
NORAD reverses the inhibitory effects of miR-485 on HG-induced HMCs. (F) Contents of Col. IV, FN and PAI-1 in HG-induced HMCs measured via ELISA **P<0.01 vs. miR-NC; #P<0.05 vs. miR-485 mimics.
miR, microRNA; NORAD, non-coding RNA activated by DNA damage; HG, high glucose; HMCs, human mesangial cells; ov, overexpression vector; NC, negative control; Col. IV, type IV collagen; FN, fibronectin; PAI-1, plasminogen activator inhibitor 1. Figure 4. PMID: 34194552.



ELISA
NORAD knockdown inhibits proliferation, inflammation and fibrosis in HG-induced HMCs by regulating the miR-485/NRF1 axis. (G) Contents of Col. IV, FN and PAI-1 in HG-induced HMCs as determined via ELISA. **P<0.01 vs. si-NC; #P<0.05 vs. si-NORAD + inhibitor NC; &P<0.05 vs. si-NORAD + ov-NC. miR, microRNA; NORAD, non-coding RNA activated by DNA damage; NRF1, nuclear respiratory factor 1; HG, high glucose; HMCs, human mesangial cells; ov, overexpression vector; si, small interfering RNA; NC, negative control; Col. IV, type IV collagen; FN, fibronectin; PAI-1, plasminogen activator inhibitor 1. Figure 6. PMID: 34194552.



SDS-PAGE
SDS-PAGE Results of Human Collagen Type IV. Lane 1: Human Collagen Type IV Reduced (5.0µg). Lane 2: Opal Prestained Molecular Weight Protein (p/n MB-210-0500). Lane 3: Human Collagen Type IV Non-Reduced (5.0µg). 4-20% Gel, Coomassie Stained. Observed MW: Type IV α1, α2, α3 bands.

References

- Richards HA et al. Magnetic bead electrochemical sandwich assay (MBESA) for the inflammatory cytokine interleukin-1β in fetal membrane on-a-chip studies and placental macrophages. *Sens Actuators B Chem.* (2026)
- Kirk LA et al. Comparison of cytokine responses to group B Streptococcus infection in a human maternal-fetal interface organ-on-a-chip system and ex vivo culture model of human gestational membranes. *Infect Immun.* (2025)
- Wang L et al. Knockdown of lncRNA NORAD inhibits the proliferation, inflammation and fibrosis of human mesangial cells under high□glucose conditions by regulating the miR□485/NRF1 axis. *Exp Ther Med.* (2021)

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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