COL4A2 Protein, Human (His)

Cat. No.:	HY-P72147
Synonyms:	Canstatin; CO4A2_HUMAN; COL4A 2; Col4a2; Collagen alpha 2IV; chain; Collagen; type IV; alpha 2
Species:	Human
Source:	E. coli
Accession:	P08572 (V1493-L1712)
Gene ID:	1284
Molecular Weight:	Approximately 28.3 kDa

PROPERTIES

AA Sequence	V K H S Q T D Q E P M C P V G M N K L W S G Y S L L Y F E G Q E K A H N Q D L G L A G S C L A R F S T M P F L Y C N P G D V C Y Y A S R N D K S Y W L S T T A P L P M M P V A E D E I K P Y I S R C S V C E A P A I A I A V H S Q D V S I P H C P A G W R S L W I G Y S F L M H T A A G D E G G G Q S L V S P G S C L E D F R A T P F I E C N G G R G T C H Y Y A N K Y S F W L T T I P E Q S F Q G S P S A D T L K A G L I R T H I S R C Q V C M K N L
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm solution of 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US;may vary elsewhere.

DESCRIPTION

Background	COL4A2 protein, a fundamental element of Type IV collagen, plays a central role as the major structural component in glomerular basement membranes (GBM), forming a characteristic 'chicken-wire' meshwork in conjunction with laminins, proteoglycans, and entactin/nidogen. Within this context, Canstatin, a cleavage product derived from the collagen alpha 2(IV) NC1 domain, exhibits notable anti-angiogenic and anti-tumor cell activities. Canstatin interferes with the proliferation and migration of endothelial cells, diminishes mitochondrial membrane potential, and induces apoptosis. Its mechanism includes the specific induction of Fas-dependent apoptosis, along with the activation of procaspase-8 and -9 activities. Notably, Canstatin acts as a ligand for alphavbeta3 and alphavbeta5 integrins, underscoring its multifaceted role in

	modulating cellular responses within the intricate context of Type IV collagen-rich environments like GBMs.

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