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Collagen I Recombinant Rabbit mAb

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Catalog # AP94712

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P02452
Reactivity	Human
Host	Rabbit
Clonality	Recombinant
Calculated MW	138911
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Collagen I
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Secreted, extracellular space, extracellular matrix.
DISEASE	Defects in COL1A1 are the cause of Caffey disease (CAFFD) [MIM:114000]; also known as infantile cortical hyperostosis. Caffey disease is characterized by an infantile episode of massive subperiosteal new bone formation that typically involves the diaphyses of the long bones, mandible, and clavicles. The involved bones may also appear inflamed, with painful swelling and systemic fever often accompanying the illness. The bone changes usually begin before 5 months of age and resolve before 2 years of age. Defects in COL1A1 are a cause of Ehlers-Danlos syndrome type 1 (EDS1) [MIM:130000]; also known as Ehlers-Danlos syndrome gravis. EDS is a connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS1 is the severe form of classic Ehlers-Danlos syndrome. Defects in COL1A1 are the cause of Ehlers-Danlos syndrome type 7A (EDS7A) [MIM:130060]; also known as autosomal dominant Ehlers-Danlos syndrome type VII. EDS is a connective tissue disorder characterized by hyperextensible skin, atrophic cutaneous scars due to tissue fragility and joint hyperlaxity. EDS7A is marked by bilateral congenital hip dislocation, hyperlaxity of the joints, and recurrent partial dislocations. Defects in COL1A1 are a cause of osteogenesis imperfecta type 1 (OI1) [MIM:166200]. A dominantly inherited connective tissue disorder characterized by bone fragility and blue sclerae. Osteogenesis imperfecta type 1 is non-deforming with normal height or mild short stature, and no dentinogenesis imperfecta. Defects in COL1A1 are a cause of osteogenesis imperfecta type 2 (OI2) [MIM:166210]; also known as osteogenesis imperfecta congenita. A connective tissue disorder characterized by bone fragility, with many perinatal fractures, severe bowing of long bones, undermineralization, and death in the perinatal period due to respiratory insufficiency. Defects in COL1A1 are a cause of osteogenesis imperfecta type 3 (OI3) [MIM:259420]. A connective tissue disorder characterized by progressively deforming bones, very short stature, a triangular face, severe scoliosis, grayish sclera, and dentinogenesis imperfecta. Defects in COL1A1 are a cause of osteogenesis imperfecta type 4 (OI4) [MIM:166220]; also known as osteogenesis imperfecta with normal

	sclerae. A connective tissue disorder characterized by moderately short stature, mild to moderate scoliosis, grayish or white sclera and dentinogenesis imperfecta. Genetic variations in COL1A1 are a cause of susceptibility to osteoporosis (OSTEOP) [MIM:166710]; also known as involutional or senile osteoporosis or postmenopausal osteoporosis. Osteoporosis is characterized by reduced bone mass, disruption of bone microarchitecture without alteration in the composition of bone. Osteoporotic bones are more at risk of fracture. Note=A chromosomal aberration involving COL1A1 is found in dermatofibrosarcoma protuberans. Translocation t(17;22)(q22;q13) with PDGF.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Collagens are highly conserved throughout evolution and are characterised by an uninterrupted "Glycine X Y" triplet repeat that is a necessary part of the triple helical structure. Type I collagen (95 kDa) is found in bone, cornea, skin and tendon. Mutations in the encoding gene are associated with osteogenesis imperfecta, Ehlers Danlos syndrome, and idiopathic osteoporosis. Reciprocal translocations between chromosomes 17 and 22, where this gene and the gene for Platelet-derived growth factor beta are located, are associated with a particular type of skin tumor called dermatofibrosarcoma protuberans, resulting from unregulated expression of the growth factor.

Additional Information

Gene ID	1277
Other Names	Collagen alpha-1(I) chain, Alpha-1 type I collagen, COL1A1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1:50-100
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

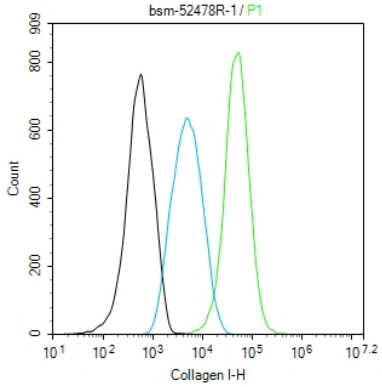
Protein Information

Name	COL1A1
Function	Type I collagen is a member of group I collagen (fibrillar forming collagen).
Cellular Location	Secreted, extracellular space, extracellular matrix {ECO:0000255|PROSITE-ProRule:PRU00793}
Tissue Location	Forms the fibrils of tendon, ligaments and bones. In bones the fibrils are mineralized with calcium hydroxyapatite

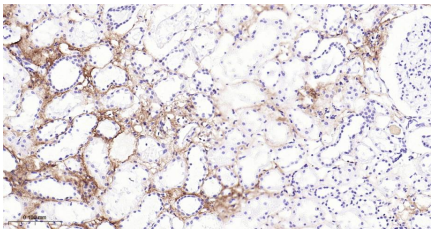
Background

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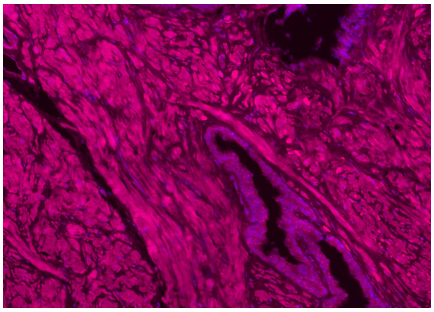
Images



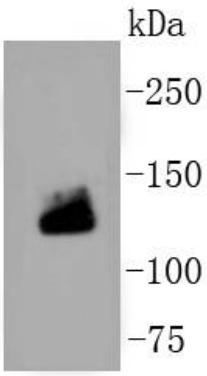
The U-87MG (H) cells were fixed with 4% PFA (10 min at r.t.) and then permeabilized with 90% ice-cold methanol for 20 min at -20°C,the cells then were incubated in 5%BSA to block non-specific protein-protein interactions (30 min at r.t.).Primary Antibody (green):Rabbit Anti-Collagen I antibody (AP94712,1:100); Secondary Antibody (white blue): Goat anti-Rabbit IgG-BF488(AP94712-BF488): 1 µg/test. Blank control (black): PBS. Acquisition of 20,000 events was performed.



Paraformaldehyde-fixed, paraffin embedded Human Kidney; Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; The section was incubated with Collagen I Monoclonal Antibody, Unconjugated (AP94712) at 1:200 overnight at 4°C, followed by conjugation to the AP94712-HRP and DAB (C-0010) staining.



Paraformaldehyde-fixed, paraffin embedded (human prostate); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (Collagen I) Monoclonal Antibody, Unconjugated (AP94712) at 1:200 overnight at 4°C, followed by a conjugated Goat Anti-Rabbit IgG antibody (bs-0295G-AF594) for 90 minutes, and DAPI for nuclei staining.



Sample: Lane 1: human placenta tissue lysates Primary: Anti-Collagen I (AP94712) at 1:500 dilution Secondary: Goat Anti-Rabbit IgG - HRP at 1:5000 dilution Predicted band size: 130 kD Observed band size: 130 kD

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.