

**R1039****Polyclonal Antibody to Collagen type II - Aff - Purified -****Alternate names:**

Alpha-1 type II collagen, COL2A1

**Quantity:**

0.1 mg

**Concentration:**

1.0 mg/ml (by UV absorbance at 280 nm)

**Background:**

Collagens are highly conserved throughout evolution and are characterized by an uninterrupted "Glycine-X-Y" triplet repeat that is a necessary part of the triple helical structure. For these reasons it is often extremely difficult to generate antibodies with specificities to collagens. The development of type specific antibodies is dependent on NON-DENATURED three-dimensional epitopes. For immunization collagens from human and bovine placenta and cartilage extensively purified by limited pepsin digestion and selective salt precipitation were used. This preparation results in a native conformation of the protein. Antibodies are isolated from rabbit antiserum and are extensively cross-adsorbed by immunoaffinity purification to produce 'type' specific antibodies. Greatly diminished reactivity and selectivity of these antibodies will result if denaturing and reducing conditions of SDS-PAGE and immunoblotting are used.

**Uniprot ID:**[P02458](#)**NCBI:**[9606](#)**GeneID:**[1280](#)**Host / Isotype:**

Rabbit / IgG

**Immunogen:**

Collagen type II purified from Human knee and Bovine nasal cartilage.

**Gene name:** COL2A1**Format:****State:** Liquid (sterile filtered) purified Ig fraction**Purification:** Immunoaffinity Chromatography**Buffer System:** 0.02M Potassium Phosphate, 0.15M Sodium Chloride, pH 7.2**Preservatives:** 0.01% (w/v) Sodium Azide**Stabilizers:** None**Applications:**

Anti-Collagen antibodies have been used for Indirect trapping ELISA for quantitation of antigen in serum using a standard curve, for immunoprecipitation and for native (non-denaturing, non-dissociating) PAGE and Western blotting for highly sensitive qualitative analysis.

**Recommended Dilutions:**

ELISA: 1/5,000-1/50,000.

Western Blot: 1/1,000-1/10,000.

Immunoprecipitation: 1/100.

Immunohistochemistry: 1/50-1/400.

**QC:** This product was assayed by Immunoblot and found to be reactive against Collagen II at a dilution of 1/5,000 to 1/10,000.

This product was also assayed against 1.0 µg of Collagen II in a standard Sandwich ELISA using Peroxidase conjugated affinity purified anti-Rabbit IgG [H&L] (Goat) and (ABTS (2,2'-azino-bis-[3-ethylbenthiiazoline-6-sulfonic acid]) as a substrate for 30

minutes at room temperature. A working dilution of 1/4,000-1/8,000 of the stock concentration showed best results.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

**Specificity:**

This product has been prepared by Immunoaffinity Chromatography using immobilised antigens followed by extensive cross-adsorption against other collagens, Human serum proteins and non-collagen extracellular matrix proteins to remove any unwanted specificities.

Crossreactivity < 1% against other types of collagens was detected by ELISA against purified standards. Some class specific anti-collagens may be specific for three-dimensional epitopes which may result in diminished reactivity with denatured collagen or formalin-fixed, paraffin embedded tissues.

This antibody reacts with most mammalian Type II collagens and has negligible cross-reactivity with Type I, III, IV, V or VI collagens. Non-specific cross reaction of anti-collagen antibodies with other human serum proteins or non-collagen extracellular matrix proteins is negligible.

**Species:** Human, Mouse, Rat, Bovine, Sheep.

Other species not tested.

**Storage:**

Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.

For extended storage, mix with an equal volume of glycerol.

Avoid repeated freezing and thawing.

Shelf life: one year from despatch.

**Product Citations:****Purchased from Acris:**

1. Jagielski M, Wolf J, Marzahn U, Völker A, Lemke M, Meier C, et al. The influence of IL-10 and TNF $\alpha$  on chondrogenesis of human mesenchymal stromal cells in three-dimensional cultures. *Int J Mol Sci.* 2014 Sep 9;15(9):15821-44. doi: 10.3390/ijms150915821. PubMed PMID: 25207597.

**Pictures:**

Collagen II antibody Cat.-No R1039 (Lot 26014, 1/400, 45 min RT) showed moderate staining of in FFPE Human bronchiolar cartilage (shown in image). Though not shown, faint to moderate staining of tonsillar squamous epithelium, prostatic stroma, breast, colon, placenta, and dermal connective tissues was also observed. All other tissues, including brain, breast epithelium, colon epithelium, heart, intestine, kidney, liver, lung, skeletal muscle, pancreas, spleen, testis, thymus, thyroid, and uterus were negative for staining Slides were steamed in 0.01M sodium citrate buffer, pH 6.0 at 99-100°C - 20 minutes for antigen retrieval. Image provided courtesy of LifeSpan Biosciences, Seattle, WA

