

Product Information

Anti-Collagen Type IV antibody, Mouse monoclonal
clone col-94, purified from hybridoma cell culture

Product Number **SAB4200709**

Product Description

Anti-Collagen Type IV antibody, Mouse monoclonal (mouse IgG1 isotype) is derived from the col-94 hybridoma, produced by the fusion of mouse myeloma cells and splenocytes from BALB/c mouse immunized with human collagen Type IV. The isotype is determined by ELISA using Mouse Monoclonal Antibody Isotyping Reagents, Product Number ISO2. The antibody is purified from culture supernatant of hybridoma cells.

Monoclonal Anti-Collagen Type IV specifically recognizes an epitope located on the $\alpha 1$ and/or $\alpha 2$ chains (COL4A1 and COL4A2, respectively) of human Collagen Type IV. The antibody shows reactivity for human and monkey Collagen Type IV, and no cross reactivity with sheep, goat, cat, rabbit, rat or chicken Collagen Type IV. In addition, the antibody shows no cross reactivity with Collagen Types I, II, III, V, VI and VII, human vitronectin, fibronectin or chondroitin sulfate A, B and C. The product may be used in several immunochemical techniques including Dot-Blotting and Immunohistochemistry and Electron Microscopy.¹⁻²

Collagens are major constituents of the extracellular matrix (ECM), representing as much as 30% of total mammalian protein mass.³ Collagen Type IV (also known as COL4A) is a key component of the basement membranes (BM) which is found at the basal surface of epithelial and endothelial cells and is essential for tissue strength and polarity.⁴ Type IV Collagens are encoded by three pairs of paralogous genes (COL4A1 through COL4A6). COL4A1 and COL4A2 are highly conserved across species and their protein products are present in almost all basement membranes, whereas COL4A3 through COL4A6 are more spatially and temporally restricted.⁵ Collagen Type IV represents a physical barrier against cell invasion.³

Proteolysis/degradation of Collagen Type IV is essential for cell migration and cancer cells invasion through the ECM into the interstitial tissues. Antibody to collagen IV can provide a useful tool for the detection of loss parts of basement membrane in epithelial cancers such as carcinomas.⁶ Moreover, analyzing Collagen Type IV distribution in connective tissues can be useful diagnosis and follow up tool in a variety of normal and pathologic conditions, including wound healing, cell

growth and differentiation, homeostasis, thrombosis, fibrosis, neoplasia, and aging.⁷

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody Concentration: ~ 1.0 mg/mL

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2-8°C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.

Product Profile

Immunohistochemistry: a working concentration of 4-8 $\mu\text{g/mL}$ is recommended using formalin-fixed, paraffin-embedded human tongue sections.

Note: In order to obtain best results in different techniques and preparations we recommend determining optimal working concentration by titration test.

References

1. Verbeke S., et al., *J Clin Pathol.*, **55**, 440-45 (2002).
2. Cullen KM., et al., *J Cereb Blood Flow Metab.*, **25**, 1656-67 (2005).
3. Egeblad M., et al., *Curr Opin Cell Biol.*, **22**, 697-706 (2010).
4. Kalluri R., *Nat Rev Cancer.*, **3**, 422-33 (2003).
5. Kuo DS., et al., *Hum Mol Genet.*, **21**, R97-R110 (2012).

6. Rowe RG. and Weiss SJ., *Trends Cell Biol.*, **18**, 560-74 (2008).
7. Gay S. and Fine JD., *Meth Enzymol.*, **145**, 148-167 (1987).

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