

**Anti-Type I Collagen (human, calf, pig, sheep, dog, goat)
Mouse monoclonal antibody**

PRODUCT NO.

CSI 008-01

Subclass: IgG1/k

Clone: 5D8-G9/Col1

PRESENTATION

Preparation: Protein-A purified

Content: Available in 200 µL and 1 mL size. 1 mg/mL +/- 15%. See Certificate of Analysis for details.

Solvent: 0.01 M phosphate buffer, pH 7.4, containing 0.5 M NaCl and 15 mM sodium azide

Storage: 4-8°C without exposure to light. No precautions necessary during handling.

ANTIGEN

Type I collagen is present in connective tissue and bone where it makes up about 90% of the organic matrix. Defects in one or both alleles of the type I collagen gene causes "brittle bone disease" (osteogenesis imperfecta). Patients suffering from such defects have low levels of fully functional type I collagen resulting in fragile bones.

IMMUNOGEN

Pepsin-solubilized, salt-fractionated type I collagen from human placenta (1)

SPECIFICITY

CSI 008-01 is highly specific for native type I collagen and shows no evidence of cross-reactivity with type II, III, V and VI collagens in inhibition ELISA and immunoblotting, and no evidence of cross-reactivity with other connective tissue proteins (laminin, fibronectin, elastin). CSI 008-01 reacts with human, calf, sheep, pig, dog and goat type I collagens as demonstrated by ELISA and immunoblotting, but does not cross-react with mouse, guinea pig, cat, rabbit, squirrel, horse, kangaroo or chicken type I collagen. CSI 008-01 has a K_a of approximately $2.5 \times 10^6 \text{ M}^{-1}$ for human type I collagen.

EPI TOPE SPECIFICITY

Epitope is located near the C-terminal of the molecule

REACTIVITY

CSI 008-01 can be used to detect collagens by ELISA. In immunoblotting CSI 008-01 detects human type I collagen only in its native triple helix form. CSI 008-01 can be used for immunohistochemistry on frozen unfixed sections of human (1,4), and bovine (2,3) skin. If fixation of tissue is required, acetone or ethanol is recommended.

CULTURE MEDIUM

RPMI 1640 with 10% fetal calf serum

FUSION PARTNER

NS1/1.Ag4.1

IMMUNIZATION

Female SJL/J mice immunized by subcutaneous injection

APPLICATION

Method	Usability	References
ELISA	Yes	
Immunoblotting	Yes	
Immunohistochemistry	Yes	1,2,3,4

REFERENCES

1. Werkmeister JA, Ramshaw JAM, Ellender G (1990) Characterisation of monoclonal antibody against native human type I collagen. *Eur J Biochem* 187:4369-443.
2. Werkmeister JA, Ramshaw JAM (1988) The use of immunohistology in studies on connective tissue organisation in hides and skins. *Das Leder* 39:145-151.
3. Werkmeister JA, Peters DE, Ramshaw JAM (1989) Development of monoclonal antibodies to collagens for assessing host-implant interactions. *J Biomed Mater Res* 23(A3):273-283.
4. Werkmeister JA, Ramshaw JAM (1989) Monoclonal antibodies to collagens for immunofluorescent examination of human skin. *Acta Derm Venereol* 69:399-402.

CONDITIONS

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