

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

Subclass: IgG1/k

CAT. NO.

CSI 008-01

Clone:5D8-G9/Col1

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 has a K_a of approximately $2.5 \times 10^6 \text{ M}^{-1}$ for human type I collagen.
IMMUNOGEN	Pepsin-solubilized, salt-fractionated type I collagen from human placenta (1)
TESTED APPLICATIONS	ELISA, WB, IHC-F, IP
SPECIES REACTIVITY (POSITIVE)	Human, calf, pig, sheep, dog, goat
SPECIES REACTIVITY (NEGATIVE)	Mouse, guinea pig, cat, rabbit, squirrel, horse, kangaroo, chicken
EPITOPE SPECIFICITY	Epitope is located near the C-terminal of the molecule

PRESENTATION

Content:	Available in 200 μL and 1 mL size. 1 mg/mL +/- 15%. See Certificate of Analysis for details.
Preparation:	Protein-A purified
Form:	Liquid
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.

APPLICATION

ELISA: CSI 008-01 can be used to detect collagens by ELISA.
WB: In immunoblotting CSI 008-01 detects human type I collagen only in its native triple helix form.
IHC: CSI 008-01 can be used for immunohistochemistry on frozen unfixed sections of human (1, 2), and bovine (3, 4) skin. If fixation of tissue is required, acetone or ethanol is recommended (5).
IP: CSI 008-01 can be used in Immunoprecipitation.

TARGET

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.

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 (1989) Monoclonal antibodies to collagens for immunofluorescent examination of human skin. *Acta Derm Venereol* 69:399-402.
3. Werkmeister JA, Ramshaw JAM (1988) The use of immunohistology in studies on connective tissue organisation in hides and skins. *Das Leder* 39:145-151.
4. 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.
5. Janssen FW, Dijkhuizen-Radersma R, Oorschot AV, Oostra J, Bruijn JD, Blitterswijk CAV (2010) Human tissue-engineered bone produced in clinically relevant amounts using a semi-automated perfusion bioreactor system: a preliminary study. *J Tissue Eng Regen Med* 4: 12-24.

CONDITIONS

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