SANTA CRUZ BIOTECHNOLOGY, INC.

COL8A2 (1F4): sc-293350

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

COL8A2 (collagen α-2(VIII) chain), also known as endothelial collagen, is a 703 amino acid secreted protein. COL8A2 is a major component of the Descemet membrane (basement membrane) of corneal endothelial cells. COL8A2 can form homodimers as well as heterodimers with COL8A1. Defects in COL8A2 are a cause for posterior polymorphous corneal dystrophy (PPCD) and Fuchs endothelial corneal dystrophy (FECD), both being disorders with visual impairment occurring in adulthood. COL8A2 is also the cause of posterior polymorphous corneal dystrophy 2 (PPCD2), a rare familial disorder that occurs from birth onwards.

REFERENCES

1. Muragaki, Y., et al. 1991. The α2(VIII) collagen gene. A novel member of the short chain collagen family located on the human chromosome 1. J. Biol. Chem. 266: 7721-7727.
2. Biswas, S., et al. 2001. Missense mutations in COL8A2, the gene encoding the α2 chain of type VIII collagen, cause two forms of corneal endothelial dystrophy. Hum. Mol. Genet. 10: 2415-2423.
3. Gottsch, J.D., et al. 2005. Inheritance of a novel COL8A2 mutation defines a distinct early-onset subtype of fuchs corneal dystrophy. Invest. Ophthalmol. Vis. Sci. 46: 1934-1939.
4. Adiguzel, E., et al. 2006. Migration and growth are attenuated in vascular smooth muscle cells with type VIII collagen-null alleles. Arterioscler. Thromb. Vasc. Biol. 26: 56-61.
5. Turner, N.J., et al. 2006. α2(VIII) collagen substrata enhance endothelial cell retention under acute shear stress flow via an α2β1 integrin-dependent mechanism: an *in vitro* and *in vivo* study. Circulation 114: 820-829.
6. Valleix, S., et al. 2006. H244R VSX1 is associated with selective cone ON bipolar cell dysfunction and macular degeneration in a PPCD family. Invest. Ophthalmol. Vis. Sci. 47: 48-54.
7. Aldave, A.J., et al. 2006. No pathogenic mutations identified in the COL8A1 and COL8A2 genes in familial Fuchs corneal dystrophy. Invest. Ophthalmol. Vis. Sci. 47: 3787-3790.

CHROMOSOMAL LOCATION

Genetic locus: COL8A2 (human) mapping to 1p34.3; Col8a2 (mouse) mapping to 4 D2.2.

SOURCE

COL8A2 (1F4) is a mouse monoclonal antibody raised against amino acids 626-696 of COL8A2 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

COL8A2 (1F4) is recommended for detection of Collagen α2 Type VIII of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for COL8A2 siRNA (h): sc-72951, COL8A2 siRNA (m): sc-72952, COL8A2 shRNA Plasmid (h): sc-72951-SH, COL8A2 shRNA Plasmid (m): sc-72952-SH, COL8A2 shRNA (h) Lentiviral Particles: sc-72951-V and COL8A2 shRNA (m) Lentiviral Particles: sc-72952-V.

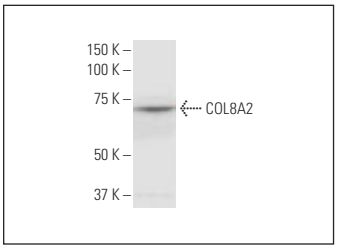
Molecular Weight of COL8A2: 67 kDa.

Positive Control: K-562 whole cell lysate: sc-2203.

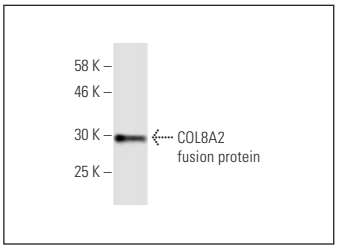
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



COL8A2 (1F4): sc-293350. Western blot analysis of COL8A2 expression in K-562 whole cell lysate.



COL8A2 (1F4): sc-293350. Western blot analysis of human recombinant COL8A2 fusion protein.

SELECT PRODUCT CITATIONS

1. Hwang, J.S., et al. 2020. COL8A2 regulates the fate of corneal endothelial cells. Invest. Ophthalmol. Vis. Sci. 61: 26.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.