SANTA CRUZ BIOTECHNOLOGY, INC.

# LLH2 (S-13): sc-50068

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGR-OUND

Lysyl hydroxylases (LLHs) 1-3 are hydroxylysines that function as attachment sites for carbohydrates. In collagen, the LLHs form hydroxylysine residues in -Xaa-Lys-Gly- sequences and are crucial for collagen crosslink stability. They form homodimers that localize to the endoplasmic reticulum. LLH1 is strongly expressed in liver, heart, lung, skeletal muscle and kidney tissue. LLH2 is highly expressed in heart, lung, kidney, eye, ovary and placenta, whereas LLH3 is expressed mainly in heart, lung, liver and testis. LLH2 exists in two alternatively-spliced forms: the long transcript (the major ubiquitously-expressed form) and the short transcript (expressed only in human kidney, spleen, liver and placenta). The long form of LLH2 is a bifunctional protein that plays a pivotal role in fibrosis by directing the collagen cross-link pattern. Any type of disruption of the regulation of the LLH2 transcript splicing may affect the stability of the extracellular matrix and contribute to specific connective tissue disorders.

## REFERENCES


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3. Ruotsalainen, H., et al. 2001. Complete genomic structure of mouse lysyl hydroxylase 2 and 3/collagen glucosyltransferase. Matrix Biol. 20: 137-146.
4. Risteli, M., et al. 2004. Characterization of collagenous peptides bound to lysyl hydroxylase isoforms. J. Biol. Chem. 279: 37535-37543.
5. Zuurmond, A.M., et al. 2005. Minoxidil exerts different inhibitory effects on gene expression of lysyl hydroxylase 1, 2, and 3: implications for collagen cross-linking and treatment of fibrosis. Matrix Biol. 24: 261-270.
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7. Takashi, M., et al. 2005. Differential gene expression of collagen-binding small leucine-rich proteoglycans and lysyl hydroxylases, during mineralization by MC3T3-E1 cells cultured on titanium implant material. Eur. J. Oral Sci. 113: 225-231.
8. Walker, L.C., et al. 2005. Tissue-specific expression and regulation of the alternatively-spliced forms of lysyl hydroxylase 2 (LLH2) in human kidney cells and skin fibroblasts. Matrix Biol. 23: 515-523.
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## CHROMOSOMAL LOCATION

Genetic locus: PLOD2 (human) mapping to 3q24; Plod2 (mouse) mapping to 9 E3.3.

## SOURCE

LLH2 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of LLH2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-50068 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

LLH2 (S-13) is recommended for detection of LLH2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

LLH2 (S-13) is also recommended for detection of LLH2 in additional species, including equine, canine and avian.

Suitable for use as control antibody for LLH2 siRNA (h): sc-60950, LLH2 siRNA (m): sc-60951, LLH2 shRNA Plasmid (h): sc-60950-SH, LLH2 shRNA Plasmid (m): sc-60951-SH, LLH2 shRNA (h) Lentiviral Particles: sc-60950-V and LLH2 shRNA (m) Lentiviral Particles: sc-60951-V.

Molecular Weight of LLH2: 95 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## RESEARCH USE

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

## PROTOCOLS

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