

## CHSY2 (P-20): sc-50550

### BACKGROUND

Chondroitin sulfate synthases (CHSYs) synthesize chondroitin sulfate, a glycosaminoglycan expressed on the surface of most cells and in extracellular matrices. Glycosaminoglycan chains are covalently linked to various of core protein families and regulate many biologic processes, including extracellular matrix deposition, cell proliferation and recognition, and morphogenesis. The CHSY family includes CHSY1, CHSY2 and CHSY3. CHSY1 and CHSY3 display both glucuronyltransferase and N-acetylgalactosaminyltransferase activities, while CHSY2 is required for chondroitin polymerizing activity. CHSY2 localizes to the Golgi apparatus and is expressed ubiquitously, with highest expression observed in pancreas, ovary, brain, heart, skeletal muscle, colon, kidney, liver, stomach, small intestine and placenta.

### REFERENCES

1. Nagase, T., Ishikawa, K., Suyama, M., Kikuno, R., Hirose, M., Miyajima, N., Tanaka, A., Kotani, H., Nomura, N. and Ohara, O. 1999. Prediction of the coding sequences of unidentified human genes. XIII. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 63-70.
2. Kitagawa, H., Uyama, T. and Sugahara, K. 2001. Molecular cloning and expression of a human chondroitin synthase. J. Biol. Chem. 276: 38721-38726.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 608183. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Kitagawa, H., Izumikawa, T., Uyama, T. and Sugahara, K. 2003. Molecular cloning of a chondroitin polymerizing factor that cooperates with chondroitin synthase for chondroitin polymerization. J. Biol. Chem. 278: 23666-23671.
5. Mizuguchi, S., Uyama, T., Kitagawa, H., Nomura, K.H., Dejima, K., Gengyo-Ando, K., Mitani, S., Sugahara, K. and Nomura, K. 2003. Chondroitin proteoglycans are involved in cell division of *Caenorhabditis elegans*. Nature 423: 443-448.
6. Yada, T., Gotoh, M., Sato, T., Shionyu, M., Go, M., Kaseyama, H., Iwasaki, H., Kikuchi, N., Kwon, Y.D., Togayachi, A., Kudo, T., Watanabe, H., Narimatsu, H. and Kimata, K. 2003. Chondroitin sulfate synthase-2. Molecular cloning and characterization of a novel human glycosyltransferase homologous to chondroitin sulfate glucuronyltransferase, which has dual enzymatic activities. J. Biol. Chem. 278: 30235-30247.
7. Yada, T., Sato, T., Kaseyama, H., Gotoh, M., Iwasaki, H., Kikuchi, N., Kwon, Y.D., Togayachi, A., Kudo, T., Watanabe, H., Narimatsu, H. and Kimata, K. 2003. Chondroitin sulfate synthase-3. Molecular cloning and characterization. J. Biol. Chem. 278: 39711-39725.
8. Yin, L. et al. 2005. Chondroitin synthase 1 is a key molecule in myeloma cell-osteoclast interactions. J. Biol. Chem. 280: 15666-15672.

### CHROMOSOMAL LOCATION

Genetic locus: CHPF (human) mapping to 2q35; D1Bwg1363e (mouse) mapping to 1 C4.

### SOURCE

CHSY2 (P-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CHSY2 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-50550 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

CHSY2 (P-20) is recommended for detection of CHSY2 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).

CHSY2 (P-20) is also recommended for detection of CHSY2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CHSY2 siRNA (h): sc-60381, CHSY2 siRNA (m): sc-60382, CHSY2 shRNA Plasmid (h): sc-60381-SH, CHSY2 shRNA Plasmid (m): sc-60382-SH, CHSY2 shRNA (h) Lentiviral Particles: sc-60381-V and CHSY2 shRNA (m) Lentiviral Particles: sc-60382-V.

Molecular Weight of CHSY2: 85 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> 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](http://www.scbt.com) or our catalog for detailed protocols and support products.