

## EXT2 (N-15): sc-11042

### BACKGROUND

Hereditary multiple exostoses (HME) is an autosomal dominant disorder characterized by the formation of exostoses (EXT), which are cartilage-capped bony protuberances mainly located on long bones. Two proteins associated with EXT, EXT1 and EXT2, form homo/heteromeric complexes *in vivo*, which leads to the accumulation of both proteins in the Golgi apparatus. EXT1 and EXT2 are endoplasmic reticulum-localized type II transmembrane glycoproteins that possess, or are tightly associated with, glycosyltransferase activities involved in the polymerization of the glycosaminoglycan, heparan sulfate (HS). EXT2 is a protein that harbors the D-glucuronyl (GlcA) and N-acetyl-D-glucosaminyl (GlcNAc) transferase activities required for biosynthesis of HS. EXT1 rescues defective HS biosynthesis and elevates low GlcA and GlcNAc transferase levels in mutated cells.

### REFERENCES

- Lind, T., Tufaro, F., McCormick, C., Lindahl, U. and Lidholt, K. 1998. The putative tumor suppressors EXT1 and EXT2 are glycosyltransferases required for the biosynthesis of heparan sulfate. *J. Biol. Chem.* 273: 26265-26268.
- McCormick, C., Leduc, Y., Martindale, D., Mattison, K., Esford, L. E., Dyer, A.P. and Tufaro, F. 1998. The putative tumour suppressor EXT1 alters the expression of cell-surface heparan sulfate. *Nat. Genet.* 19: 158-161.
- Wuyts, W. and Van Hul, W. 2000. Molecular basis of multiple exostoses: mutations in the EXT1 and EXT2 genes. *Hum. Mutat.* 15: 220-2277.
- Kobayashi, S., Morimoto, K., Shimizu, T., Takahashi, M., Kurosawa, H. and Shirasawa, T. 2000. Association of EXT1 and EXT2, hereditary multiple exostoses gene products, in Golgi apparatus. *Biochem. Biophys. Res. Commun.* 268: 860-867.
- McCormick, C., Duncan, G., Goutsos, K.T. and Tufaro, F. 2000. The putative tumor suppressors EXT1 and EXT2 form a stable complex that accumulates in the Golgi apparatus and catalyzes the synthesis of heparan sulfate. *Proc. Natl. Acad. Sci. USA* 97: 668-673.

### CHROMOSOMAL LOCATION

Genetic locus: EXT2 (human) mapping to 11p11.2; Ext2 (mouse) mapping to 2 E1.

### SOURCE

EXT2 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of EXT2 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-11042 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### RESEARCH USE

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

### APPLICATIONS

EXT2 (C-17) is recommended for detection of EXT2 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)], 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).

EXT2 (N-15) is also recommended for detection of EXT2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for EXT2 siRNA (h): sc-106830, EXT2 siRNA (m): sc-144985, EXT2 shRNA Plasmid (h): sc-106830-SH, EXT2 shRNA Plasmid (m): sc-144985-SH, EXT2 shRNA (h) Lentiviral Particles: sc-106830-V and EXT2 shRNA (m) Lentiviral Particles: sc-144985-V.

Molecular Weight of EXT2: 90 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

### SELECT PRODUCT CITATIONS

- Busse, M., et al. 2007. Contribution of EXT1, EXT2, and EXTL3 to heparan sulfate chain elongation. *J. Biol. Chem.* 282: 32802-32810.
- Presto, J., et al. 2008. Heparan sulfate biosynthesis enzymes EXT1 and EXT2 affect NDST1 expression and heparan sulfate sulfation. *Proc. Natl. Acad. Sci. USA* 105: 4751-4756.

### STORAGE

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

### PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **EXT2 (A-2): sc-514092**, our highly recommended monoclonal alternative to EXT2 (N-15).