SANTA CRUZ BIOTECHNOLOGY, INC.

# EXT1 (N-16): sc-11039

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## 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


1. 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.
2. 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.
3. Wuyts, W. and Van Hul, W. 2000. Molecular basis of multiple exostoses: mutations in the EXT1 and EXT2 genes. Hum. Mutat. 15: 220-2277.
4. 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.
5. 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: EXT1 (human) mapping to 8q24.11; Ext1 (mouse) mapping to 15 C.

## SOURCE

EXT1 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of EXT1 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-11039 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

EXT1 (N-16) is recommended for detection of EXT1 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).

EXT1 (N-16) is also recommended for detection of EXT1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EXT1 siRNA (h): sc-106792, EXT1 siRNA (m): sc-144984, EXT1 shRNA Plasmid (h): sc-106792-SH, EXT1 shRNA Plasmid (m): sc-144984-SH, EXT1 shRNA (h) Lentiviral Particles: sc-106792-V and EXT1 shRNA (m) Lentiviral Particles: sc-144984-V.

Molecular Weight of EXT1: 86 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.

## SELECT PRODUCT CITATIONS


1. Ropero, S., Setien, F., Espada, J., Fraga, M.F., Herranz, M., Asp, J., Benassi, M.S., Franchi, A., Patiño, A., Ward, L.S., Bovee, J., Cigudosa, J.C., Wim, W. and Esteller, M. 2004. Epigenetic loss of the familial tumor-suppressor gene exostosin-1 (EXT1) disrupts heparan sulfate synthesis in cancer cells. Hum. Mol. Genet. 13: 2753-2765.
2. Wong, A.W., Baginski, T.K. and Reilly, D.E. 2010. Enhancement of DNA uptake in FUT8-deleted CHO cells for transient production of afucosylated antibodies. Biotechnol. Bioeng. 106: 751-763.


## 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 or our catalog for detailed protocols and support products.