

## EXTL3 (S-16): sc-54268

### BACKGROUND

EXTL3 (exostosin-like 3), also known as Reg receptor, EXT-related protein 1 (EXTR1) or glucuronyl-galactosyl-proteoglycan 4 $\alpha$ -N-acetylglucosaminyltransferase, is a member of the EXT (hereditary multiple exostosin) gene family of tumor suppressors encoding glycosyltransferases involved in heparan sulfate (HS) biosynthesis. Within this family, the C-terminus is conserved between all members from *C. elegans* to vertebrates. EXTL3 is a ubiquitously expressed, developmentally regulated, single-pass type II membrane protein that localizes to the endoplasmic reticulum membrane. EXTL3 adds N-acetylglucosamine (GlcNAc) to the polysaccharide-protein linkage region and to the growing HS chain suggesting that it plays a role in both the initiation and elongation of HS chains. In addition, EXTL3 may act as a Reg receptor, binding Reg via its N-terminus.

### REFERENCES

1. Van Hul, W., et al. 1998. Identification of a third EXT-like gene (EXTL3) belonging to the EXT gene family. *Genomics* 47: 230-237.
2. Kobayashi, S., et al. 2000. Identification of a receptor for reg (regenerating gene) protein, a pancreatic  $\beta$  cell regeneration factor. *J. Biol. Chem.* 275: 10723-10726.
3. Kim, B.T., et al. 2001. Human tumor suppressor EXT gene family members EXTL1 and EXTL3 encode  $\alpha$ 1,4-N-acetylglucosaminyltransferases that likely are involved in heparan sulfate/ heparin biosynthesis. *Proc. Natl. Acad. Sci. USA* 98: 7176-7181.
4. Mizuno, K., et al. 2001. Overexpression of EXTL3/EXTR1 enhances NF $\kappa$ B activity induced by TNF $\alpha$ . *Cell. Signal.* 13: 125-130.
5. Osman, N.M., et al. 2003.  $\alpha$ 1,4-N-acetylglucosaminyltransferase encoding gene EXTL3 expression pattern in mouse adult and developing tissues with special attention to the pancreas. *Anat. Embryol.* 207: 333-341.
6. Lee, J.S., et al. 2004. Axon sorting in the optic tract requires HSPG synthesis by EXTL2 (dackel) and EXTL3 (boxer). *Neuron* 44: 947-960.
7. Osman, N.M., et al. 2004. Glycosyltransferase encoding gene EXTL3 is differentially expressed in the developing and adult mouse cerebral cortex. *Brain Res. Dev. Brain Res.* 151: 111-117.
8. Izumikawa, T., et al. 2006. Heparan sulfate polymerization in *Drosophila*. *J. Biol. Chem.* 281: 1929-1934.

### CHROMOSOMAL LOCATION

Genetic locus: EXTL3 (human) mapping to 8p21.1; Extl3 (mouse) mapping to 14 D1.

### SOURCE

EXTL3 (S-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of EXTL3 of human origin.

### STORAGE

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

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-54268 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EXTL3 (S-16) is recommended for detection of EXTL3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

EXTL3 (S-16) is also recommended for detection of EXTL3 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for EXTL3 siRNA (h): sc-105342, EXTL3 siRNA (m): sc-144987, EXTL3 shRNA Plasmid (h): sc-105342-SH, EXTL3 shRNA Plasmid (m): sc-144987-SH, EXTL3 shRNA (h) Lentiviral Particles: sc-105342-V and EXTL3 shRNA (m) Lentiviral Particles: sc-144987-V.

Molecular Weight of EXTL3: 105 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.

### 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.



Try **EXTL3 (G-5): sc-271986**, our highly recommended monoclonal alternative to EXTL3 (S-16).