

## EP58 (Y-19): sc-84101

### BACKGROUND

Soluble proteins in the endoplasmic reticulum (ER) contain a specific carboxy-terminal sequence KDEL (Lys-Asp-Glu-Leu) and include the coat proteins required for vesicle budding from the ER, proteins that form retrograde vesicles on post-ER compartments, and integral membrane proteins that target vesicles to their correct destination. The retention of these soluble proteins in the ER depends on the interaction of the KDEL sequence with the corresponding KDEL receptor in the Golgi apparatus. When KDEL proteins reach the Golgi complex, they are recognized by the KDEL receptor and transported retrograde in COPI-coated vesicles back to the ER. A novel ligand ER protein 58 (EP58) shares no significant homology to any of the known ER-resident proteins. EP58 is primarily expressed in embryo, placenta and adult heart. Sequence similarity to bacterial and fungus proteins suggests a possible role for EP58 in polysaccharide biosynthesis.

### REFERENCES

1. Pelham, H.R. 1996. The dynamic organisation of the secretory pathway. *Cell. Struct. Funct.* 21: 413-419.
2. Teasdale, R.D. and Jackson, M.R. 1996. Signal-mediated sorting of membrane proteins between the endoplasmic reticulum and the Golgi apparatus. *Annu. Rev. Cell Dev. Biol.* 12: 27-54.
3. Aoe, T., et al. 1997. The KDEL receptor, ERD2, regulates intracellular traffic by recruiting a GTPase-activating protein for ARF1. *EMBO J.* 16: 7305-7316.
4. Aoe, T., et al. 1998. Modulation of intracellular transport by transported proteins: insight from regulation of COPI-mediated transport. *Proc. Natl. Acad. Sci. USA* 95: 1624-1629.
5. Scheel, A.A., et al. 1998. Identification of amino acids in the binding pocket of the human KDEL receptor. *J. Biol. Chem.* 273: 2467-2472.
6. Kimata, Y., Ooboki, K., Nomura-Furuwatari, C., Hosoda, A., Tsuru, A. and Kohno, K. 2000. Identification of a novel mammalian endoplasmic reticulum-resident KDEL protein using an EST database motif search. *Gene* 261: 321-327.
7. Murshid, A. and Presley, J.F. 2004. ER-to-Golgi transport and cytoskeletal interactions in animal cells. *Cell. Mol. Life Sci.* 61: 133-145.

### CHROMOSOMAL LOCATION

Genetic locus: KDELC1 (human) mapping to 13q33.1; Kdelc1 (mouse) mapping to 1 C1.1.

### SOURCE

EP58 (Y-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of EP58 of human origin.

### PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-84101 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

EP58 (Y-19) is recommended for detection of EP58 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).

EP58 (Y-19) is also recommended for detection of EP58 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for EP58 siRNA (h): sc-105331, EP58 siRNA (m): sc-144902, EP58 shRNA Plasmid (h): sc-105331-SH, EP58 shRNA Plasmid (m): sc-144902-SH, EP58 shRNA (h) Lentiviral Particles: sc-105331-V and EP58 shRNA (m) Lentiviral Particles: sc-144902-V.

Molecular Weight of EP58: 58 kDa.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (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](http://www.scbt.com) or our catalog for detailed protocols and support products.