

## EP58 (C-3): sc-390065

### 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.

### CHROMOSOMAL LOCATION

Genetic locus: KDEL1 (human) mapping to 13q33.1; Kdelc1 (mouse) mapping to 1 C1.1.

### SOURCE

EP58 (C-3) is a mouse monoclonal antibody raised against amino acids 21-78 mapping near the N-terminus of EP58 of human origin.

### PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EP58 (C-3) is available conjugated to agarose (sc-390065 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390065 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390065 PE), fluorescein (sc-390065 FITC), Alexa Fluor® 488 (sc-390065 AF488), Alexa Fluor® 546 (sc-390065 AF546), Alexa Fluor® 594 (sc-390065 AF594) or Alexa Fluor® 647 (sc-390065 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390065 AF680) or Alexa Fluor® 790 (sc-390065 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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### APPLICATIONS

EP58 (C-3) is recommended for detection of EP58 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

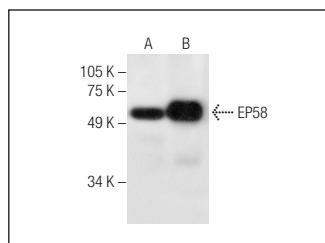
Molecular Weight of EP58: 58 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, HeLa whole cell lysate: sc-2200 or FHs 173We cell lysate: sc-2417.

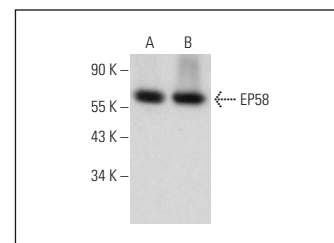
### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

### DATA



EP58 (C-3): sc-390065. Western blot analysis of EP58 expression in HL-60 (A) and FHs 173We (B) whole cell lysates.



EP58 (C-3): sc-390065. Western blot analysis of EP58 expression in HeLa (A) and 3T3-L1 (B) whole cell lysates.

### SELECT PRODUCT CITATIONS

1. Liu, X., et al. 2022. Targeting LIPA independent of its lipase activity is a therapeutic strategy in solid tumors via induction of endoplasmic reticulum stress. *Nat. Cancer* 3: 866-884.

### 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.