

KDEL receptor 1/2 (A-13)-R: sc-23245-R

BACKGROUND

KDEL receptor 1/2 (KDEL1/2), also known as ER lumen protein retaining receptor 1/2, is a 212 amino acid protein required for the retention of luminal endoplasmic reticulum (ER) proteins. Soluble proteins in the 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 are transported retrograde in COPI-coated vesicles back to the ER. KDEL receptor 1/2 also interacts with ARFGAP1, a protein required for the dissociation of coat proteins from Golgi-derived membranes and vesicles.

REFERENCES

1. Pelham, H.R. 1996. The dynamic organisation of the secretory pathway. *Cell Struct. Funct.* 21: 413-419.
2. 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.
3. 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.
4. 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.
5. Aoe, T., et al. 1999. The KDEL receptor regulates a GTPase-activating protein for ADP-ribosylation factor 1 by interacting with its non-catalytic domain. *J. Biol. Chem.* 274: 20545-20549.
6. Kimata, Y., et al. 2000. Identification of a novel mammalian endoplasmic reticulum-resident KDEL protein using an EST database motif search. *Gene* 261: 321-327.
7. Majoul, I., et al. 2001. KDEL-cargo regulates interactions between proteins involved in COPI vesicle traffic: measurements in living cells using FRET. *Dev. Cell* 1: 139-153.

CHROMOSOMAL LOCATION

Genetic locus: KDEL1 (human) mapping to 19q13.33, KDEL2 (human) mapping to 7p22.1; Kdel1 (mouse) mapping to 7 B4, Kdel2 (mouse) mapping to 5 G2.

SOURCE

KDEL receptor 1/2 (A-13)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of KDEL receptor 1/2 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 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-23245 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

KDEL receptor 1/2 (A-13)-R is recommended for detection of KDEL receptors 1 and 2 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).

KDEL receptor 1/2 (A-13)-R is also recommended for detection of KDEL receptors 1 and 2 in additional species, including equine, canine, bovine, porcine and avian.

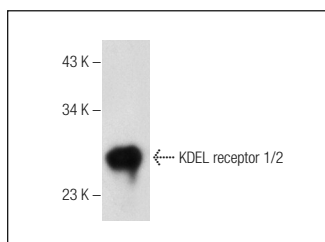
Molecular Weight of KDEL receptor 1/2: 25 kDa.

Positive Controls: Mouse small intestine tissue extract.

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.

DATA



KDEL receptor 1/2 (A-13)-R: sc-23245-R. Western blot analysis of KDEL receptor 1/2 expression in mouse small intestine tissue extract.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.