

# KDEL receptor 3 (F-15): sc-23244

## 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, also designated ERD2, 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. The small GTPase ADP-ribosylation factor 1 (ARF1), a regulator of vesicle transport, interacts with the KDEL receptor. Subsequently, this interaction allows the KDEL receptor to recruit a GTPase-activating protein (GAP) from the cytosol to membranes, which inactivates ARF1.

## REFERENCES

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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: KDEL3 (human) mapping to 22q13.1; Kdelr3 (mouse) mapping to 15 E1.

## SOURCE

KDEL receptor 3 (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of KDEL receptor 3 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-23244 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

KDEL receptor 3 (F-15) is recommended for detection of KDEL receptor 3 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 3 (F-15) is also recommended for detection of KDEL receptor 3 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for KDEL receptor 3 siRNA (h): sc-40096, KDEL receptor 3 siRNA (m): sc-146401, KDEL receptor 3 shRNA Plasmid (h): sc-40096-SH, KDEL receptor 3 shRNA Plasmid (m): sc-146401-SH, KDEL receptor 3 shRNA (h) Lentiviral Particles: sc-40096-V and KDEL receptor 3 shRNA (m) Lentiviral Particles: sc-146401-V.

Molecular Weight of KDEL receptor 3: 25 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.

## 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.