

SEC24A (4D9): sc-517155

BACKGROUND

SEC24A (SEC24 family, member A) is a 1,093 amino acid protein belonging to the SEC24 subfamily and the SEC23/SEC24 protein family. Members of this family participate in vesicle trafficking from the endoplasmic reticulum (ER) to the Golgi apparatus. SEC24A is one of four mammalian proteins, namely SEC24A, SEC24B, SEC24C and SEC24D, that are highly related to the *Saccharomyces cerevisiae* protein SEC24, a component of the coat protein complex COPII that mediates the selective export of membrane proteins from the ER. Similar to its yeast counterpart, SEC24A functions as a component of the cytoplasmic COPII complex. The COPII complex acts as a coat, covering ER-derived transport vesicles and promoting the transport of secretory proteins to the Golgi apparatus. Localizing to the cytoplasm, SEC24A is expressed in fibroblasts, hepatocytes, and lymphocytes. SEC24A has the ability to form heterodimers with SEC24B and SEC24C, and exists as two alternatively spliced isoforms.

REFERENCES

1. Tang, B.L., et al. 1999. A family of mammalian proteins homologous to yeast SEC24p. *Biochem. Biophys. Res. Commun.* 258: 679-684.
2. Pagano, A., et al. 1999. SEC24 proteins and sorting at the endoplasmic reticulum. *J. Biol. Chem.* 274: 7833-7840.
3. Wendeler, M.W., et al. 2007. Role of SEC24 isoforms in selective export of membrane proteins from the endoplasmic reticulum. *EMBO Rep.* 8: 258-264.
4. Mancias, J.D. and Goldberg, J. 2007. The transport signal on SEC22 for packaging into COPII-coated vesicles is a conformational epitope. *Mol. Cell* 26: 403-414.
5. Mancias, J.D. and Goldberg, J. 2008. Structural basis of cargo membrane protein discrimination by the human COPII coat machinery. *EMBO J.* 27: 2918-2928.
6. Faso, C., et al. 2009. A missense mutation in the *Arabidopsis* COPII coat protein SEC24A induces the formation of clusters of the endoplasmic reticulum and Golgi apparatus. *Plant Cell* 21: 3655-3671.
7. Nakano, R.T., et al. 2009. GNOM-LIKE1/ERMO1 and SEC24A/ERMO2 are required for maintenance of endoplasmic reticulum morphology in *Arabidopsis thaliana*. *Plant Cell* 21: 3672-3685.
8. Bonnon, C., et al. 2010. Selective export of human GPI-anchored proteins from the endoplasmic reticulum. *J. Cell Sci.* 123: 1705-1715.

CHROMOSOMAL LOCATION

Genetic locus: SEC24A (human) mapping to 5q31.1.

SOURCE

SEC24A (4D9) is a mouse monoclonal antibody raised against amino acids 301-390 representing partial length SEC24A of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SEC24A (4D9) is recommended for detection of SEC24A of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SEC24A siRNA (h): sc-270321, SEC24A shRNA Plasmid (h): sc-270321-SH and SEC24A shRNA (h) Lentiviral Particles: sc-270321-V.

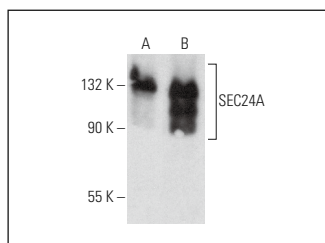
Molecular Weight of SEC24A isoform 1/2: 120/66 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or MDA-MB-435S whole cell lysate: sc-364184.

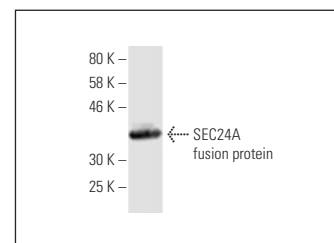
RECOMMENDED SUPPORT REAGENTS

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).

DATA



SEC24A (4D9): sc-517155. Western blot analysis of SEC24A expression in HeLa (A) and MDA-MB-435S (B) whole cell lysates.



SEC24A (4D9): sc-517155. Western blot analysis of human recombinant SEC24A fusion protein.

SELECT PRODUCT CITATIONS

1. van Leeuwen, W., et al. 2022. Stress-induced phase separation of ERES components into Sec bodies precedes ER exit inhibition in mammalian cells. *J. Cell Sci.* 135: jcs260294.

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 for detailed protocols and support products.