

# Sectm1a (W-18): sc-139368

## BACKGROUND

Sectm1a (secreted and transmembrane 1A) is a 192 amino acid single-pass type I membrane protein that belongs to the SECTM family. Sectm1a is the mouse homolog of human K12, also known as SECTM1, and may possess similar functions. K12 is a novel protein that is suggested to be involved in hematopoietic and/or immune system processes. K12 stimulates the up-regulation of IL-2R $\alpha$ , ICAM-1 and CD69 on human NK cells. Sectm1a is encoded by a gene located on mouse chromosome 11 E2 and K12 is encoded by a gene located on human chromosome 17q25.3. Chromosome 17 comprises over 2.5% of the human genome and encodes over 1,200 genes. Two key tumor suppressor genes are associated with chromosome 17, namely, p53 and BRCA1. Tumor suppressor p53 is necessary for maintenance of cellular genetic integrity by moderating cell fate through DNA repair versus cell death. Malfunction or loss of p53 expression is associated with malignant cell growth and Li-Fraumeni syndrome. Like p53, BRCA1 is directly involved in DNA repair, though specifically it is recognized as a genetic determinant of early onset breast cancer and predisposition to cancers of the ovary, colon, prostate gland and fallopian tubes.

## REFERENCES

- Slentz-Kesler, K.A., et al. 1998. Identification and characterization of K12 (SECTM1), a novel human gene that encodes a Golgi-associated protein with transmembrane and secreted isoforms. *Genomics* 47: 327-340.
- Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602602. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Lyman, S.D., et al. 2000. Identification of CD7 as a cognate of the human K12 (SECTM1) protein. *J. Biol. Chem.* 275: 3431-3437.
- Lam, G.K., et al. 2005. Expression of the CD7 ligand K-12 in human thymic epithelial cells: regulation by IFN- $\gamma$ . *J. Clin. Immunol.* 25: 41-49.
- Nusbaum, R., et al. 2006-2007. Susceptibility to breast cancer: hereditary syndromes and low penetrance genes. *Breast Dis.* 27: 21-50.

## CHROMOSOMAL LOCATION

Genetic locus: Sectm1a (mouse) mapping to 11 E2.

## SOURCE

Sectm1a (W-18) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of Sectm1a of rat origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139368 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Sectm1a (W-18) is recommended for detection of Sectm1a of rat and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Sectm1b.

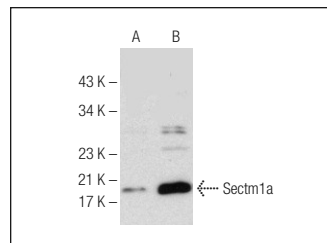
Suitable for use as control antibody for Sectm1a siRNA (m): sc-153321, Sectm1a shRNA Plasmid (m): sc-153321-SH and Sectm1a shRNA (m) Lentiviral Particles: sc-153321-V.

Molecular Weight of Sectm1a: 21 kDa.

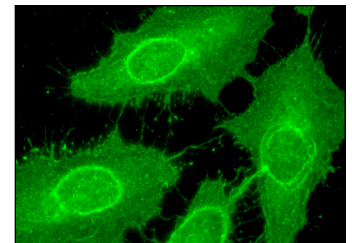
## RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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



Sectm1a (W-18): sc-139368. Western blot analysis of Sectm1a expression in non-transfected: sc-117752 (A) and mouse Sectm1a transfected: sc-125975 (B) 293T whole cell lysates.



Sectm1a (W-18): sc-139368. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization.

## 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.