

## SEP15 (E-12): sc-162171

### BACKGROUND

Selenium is an essential trace element that is incorporated as selenocysteine into the primary structure of selenoproteins. Nutritional deficiency of selenium decreases selenoprotein concentrations and leads to pathologic conditions. Most of the known selenoproteins are members of the glutathione peroxidase or iodothyronine deiodinase families. SEP15 (15 kDa selenoprotein) is a 162 amino acid protein that assists in redox reactions involving disulfide bond formation and protein folding in the endoplasmic reticulum. Localizing to the lumen of the endoplasmic reticulum, SEP15 is expressed in testis, brain, kidney, liver and prostate, with low levels of expression found in trachea, skeletal muscle and mammary gland. SEP15 is a member of the selenoprotein M/SEP15 family and exists as two alternatively spliced isoforms which are encoded by a gene located on human chromosome 1.

### REFERENCES

1. Gladyshev, V.N., et al. 1998. A new human selenium-containing protein. Purification, characterization, and cDNA sequence. *J. Biol. Chem.* 273: 8910-8915.
2. Kumaraswamy, E., et al. 2000. Structure-expression relationships of the 15-kDa selenoprotein gene. Possible role of the protein in cancer etiology. *J. Biol. Chem.* 275: 35540-35547.
3. Korotkov, K.V., et al. 2001. Association between the 15-kDa selenoprotein and UDP-glucose:glycoprotein glucosyltransferase in the endoplasmic reticulum of mammalian cells. *J. Biol. Chem.* 276: 15330-15336.
4. Kumaraswamy, E., et al. 2002. Genetic and functional analysis of mammalian SEP15 selenoprotein. *Meth. Enzymol.* 347: 187-197.
5. Wu, H.J., et al. 2003. Redox reactions of SEP15 and its relationship with tumor development. *Ai Zheng* 22: 119-122.
6. Apostolou, S., et al. 2004. Growth inhibition and induction of apoptosis in mesothelioma cells by selenium and dependence on selenoprotein SEP15 genotype. *Oncogene* 23: 5032-5040.
7. Jablonska, E., et al. 2008. Lung cancer risk associated with selenium status is modified in smoking individuals by SEP15 polymorphism. *Eur. J. Nutr.* 47: 47-54.
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### CHROMOSOMAL LOCATION

Genetic locus: SEP15 (human) mapping to 1p22.3; Sep15 (mouse) mapping to 3 H2.

### SOURCE

SEP15 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of SEP15 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-162171 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

SEP15 (E-12) is recommended for detection of SEP15 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).

Suitable for use as control antibody for SEP15 siRNA (h): sc-88552, SEP15 siRNA (m): sc-153336, SEP15 shRNA Plasmid (h): sc-88552-SH, SEP15 shRNA Plasmid (m): sc-153336-SH, SEP15 shRNA (h) Lentiviral Particles: sc-88552-V and SEP15 shRNA (m) Lentiviral Particles: sc-153336-V.

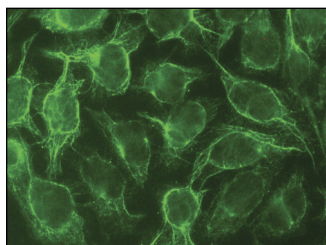
Molecular Weight of SEP15: 18 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotting 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<sup>™</sup> Mounting Medium: sc-24941.

### DATA



SEP15 (E-12): sc-162171. Immunofluorescence staining of methanol-fixed HeLa cells showing endoplasmic reticulum.

### 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.