

## ELAC2 (E-13): sc-138773

### BACKGROUND

ELAC2 (ElaC homolog protein 2), also known as Heredity prostate cancer protein 2 and tRNA 3' endonuclease 2, is a 826 amino acid nuclear protein that functions as a zinc phosphodiesterase. Likely to be involved in tRNA maturation, ELAC2 displays tRNA 3'-processing endonuclease activity and removes 3'-trailer from precursor tRNA. ELAC2 is widely expressed with highest levels found in placenta, skeletal muscle, pancreas, heart, kidney, ovary, testis and liver. Defects in the gene encoding ELAC2 may increase the susceptibility to prostate cancer. Knockdown of ELAC2 mRNA in prostate cells inhibits TGF- $\beta$  induced growth arrest, supporting the role of ELAC2 as a tumor suppressor. There are three isoforms of ELAC2 that are produced as a result of alternative splicing events.

### REFERENCES

1. Rebbeck, T.R., et al. 2000. Association of HPC2/ELAC2 genotypes and prostate cancer. *Am. J. Hum. Genet.* 67: 1014-1019.
2. Rökman, A., et al. 2001. ELAC2/HPC2 involvement in hereditary and sporadic prostate cancer. *Cancer Res.* 61: 6038-6041.
3. Wang, L., et al. 2001. Role of HPC2/ELAC2 in hereditary prostate cancer. *Cancer Res.* 61: 6494-6499.
4. Tavtigian, S.V., et al. 2001. A candidate prostate cancer susceptibility gene at chromosome 17p. *Nat. Genet.* 27: 172-180.
5. Camp, N.J., et al. 2002. Meta-analysis of associations of the Ser217Leu and Ala541Thr variants in ELAC2 (HPC2) and prostate cancer. *Am. J. Hum. Genet.* 71: 1475-1478.
6. Fujiwara, H., et al. 2002. Association of common missense changes in ELAC2 (HPC2) with prostate cancer in a Japanese case-control series. *J. Hum. Genet.* 47: 641-648.
7. Takahashi, H., et al. 2003. Ser217Leu polymorphism of the HPC2/ELAC2 gene associated with prostatic cancer risk in Japanese men. *Int. J. Cancer* 107: 224-228.
8. Severi, G., et al. 2003. ELAC2/HPC2 polymorphisms, prostate-specific antigen levels, and prostate cancer. *J. Natl. Cancer Inst.* 95: 818-824.
9. Takaku, H., et al. 2003. A candidate prostate cancer susceptibility gene encodes tRNA 3' processing endonuclease. *Nucleic Acids Res.* 31: 2272-2278.

### CHROMOSOMAL LOCATION

Genetic locus: ELAC2 (human) mapping to 17p12; Elac2 (mouse) mapping to 11 B3.

### SOURCE

ELAC2 (E-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of ELAC2 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 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-138773 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

ELAC2 (E-13) is recommended for detection of ELAC2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), 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 ELAC1.

ELAC2 (E-13) is also recommended for detection of ELAC2 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ELAC2 siRNA (h): sc-93846, ELAC2 siRNA (m): sc-144627, ELAC2 shRNA Plasmid (h): sc-93846-SH, ELAC2 shRNA Plasmid (m): sc-144627-SH, ELAC2 shRNA (h) Lentiviral Particles: sc-93846-V and ELAC2 shRNA (m) Lentiviral Particles: sc-144627-V.

Molecular Weight of ELAC2: 85 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) 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.

### 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.