

# PUSL1 (S-15): sc-137702

## BACKGROUND

PUSL1 (tRNA pseudouridylate synthase-like 1) is a 303 amino acid protein that belongs to the tRNA pseudouridine synthase truA family. Existing as two alternatively spliced isoforms, the PUSL1 gene is conserved in canine, bovine, mouse, rat, chicken, zebrafish, fruit fly, mosquito, *A. thaliana* and rice, and maps to human chromosome 1p36.33. Chromosome 1 is the largest human chromosome spanning about 260 million base pairs and making up 8% of the human genome. There are about 3,000 genes on chromosome 1, and considering the great number of genes there are also a large number of diseases associated with chromosome 1. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are all associated with chromosome 1. Notably, the rare aging disease Hutchinson-Gilford progeria is associated with the LMNA gene which encodes lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. Aberrations in chromosome 1 are found in a variety of cancers including head and neck cancer, malignant melanoma and multiple myeloma.

## REFERENCES

1. Watson, M.L., et al. 1990. Genomic organization of the selectin family of leukocyte adhesion molecules on human and mouse chromosome 1. *J. Exp. Med.* 172: 263-272.
2. Huang, W.C., et al. 2002. KIAA1096, a gene on chromosome 1q, is amplified and overexpressed in bladder cancer. *DNA Cell Biol.* 21: 707-715.
3. Weise, A., et al. 2005. New insights into the evolution of chromosome 1. *Cytogenet. Genome Res.* 108: 217-222.
4. Marzin, Y., et al. 2006. Chromosome 1 abnormalities in multiple myeloma. *Anticancer Res.* 26: 953-959.
5. Gregory, S.G., et al. 2006. The DNA sequence and biological annotation of human chromosome 1. *Nature* 441: 315-321.
6. McClintock, D., et al. 2006. Hutchinson-Gilford progeria mutant lamin A primarily targets human vascular cells as detected by an anti-Lamin A G608G antibody. *Proc. Natl. Acad. Sci. USA* 103: 2154-2159.
7. Scaffidi, P., et al. 2006. Lamin A-dependent nuclear defects in human aging. *Science* 312: 1059-1063.

## CHROMOSOMAL LOCATION

Genetic locus: PUSL1 (human) mapping to 1p36.33; Pusl1 (mouse) mapping to 4 E2.

## SOURCE

PUSL1 (S-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of PUSL1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-137702 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

PUSL1 (S-15) is recommended for detection of PUSL1 isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg 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).

PUSL1 (S-15) is also recommended for detection of PUSL1 isoforms 1 and 2 in additional species, including equine and bovine.

Suitable for use as control antibody for PUSL1 siRNA (h): sc-88088, PUSL1 siRNA (m): sc-152596, PUSL1 shRNA Plasmid (h): sc-88088-SH, PUSL1 shRNA Plasmid (m): sc-152596-SH, PUSL1 shRNA (h) Lentiviral Particles: sc-88088-V and PUSL1 shRNA (m) Lentiviral Particles: sc-152596-V.

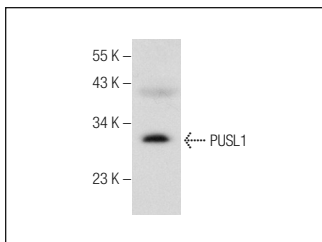
Molecular Weight of PUSL1 isoforms: 33/15 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

## 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



PUSL1 (S-15): sc-137702. Western blot analysis of PUSL1 expression in MCF7 whole cell lysate.

## 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.