

PUS1 (P-16): sc-50667

BACKGROUND

PUS1 (pseudouridine synthase 1) belongs to the tRNA pseudouridine synthase truA family. PUS1 functions in the conversion of uridine into pseudouridine after the nucleotide has been incorporated into RNA. It may have a functional role in tRNAs and is also thought to assist in the peptidyl transfer reaction of rRNAs. As a nucleus-resident protein, PUS1 forms a complex with RARG and the SRA1 RNA. PUS1 is widely expressed, with highest levels of expression in the brain and skeletal muscle tissues. Defects in PUS1 are a cause of myopathy with lactic acidosis and sideroblastic anemia (MLASA), also known as mitochondrial myopathy and sideroblastic anemia. MLASA is a rare autosomal recessive oxidative phosphorylation disorder specific to bone marrow and skeletal muscle. The deduced human PUS1 protein contains 348 amino acids and shares 92% sequence homology with mouse PUS1.

REFERENCES

1. Arluison, V., Hountondji, C., Robert, B. and Grosjean, H. 1998. Transfer RNA-pseudouridine synthetase Pus1 of *Saccharomyces cerevisiae* contains one atom of zinc essential for its native conformation and tRNA recognition. *Biochemistry* 37: 7268-7276.
2. Arluison, V., Batelier, G., Riès-Kautt, M. and Grosjean, H. 1999. RNA: pseudouridine synthetase Pus1 from *Saccharomyces cerevisiae*: oligomerization property and stoichiometry of the complex with yeast tRNA(Phe). *Biochimie* 81: 751-756.
3. Arluison, V., Buckle, M. and Grosjean, H. 1999. Pseudouridine Synthetase Pus1 of *Saccharomyces cerevisiae*: kinetic characterisation, tRNA structural requirement and real-time analysis of its complex with tRNA. *J. Mol. Biol.* 289: 491-502.
4. Chen, J. and Patton, J.R. 1999. Cloning and characterization of a mammalian Pseudouridine Synthase. *RNA* 5: 409-419.

CHROMOSOMAL LOCATION

Genetic locus: PUS1 (human) mapping to 12q24.33; Pus1 (mouse) mapping to 5 F.

SOURCE

PUS1 (P-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PUS1 of human origin.

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-50667 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-50667 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

PUS1 (P-16) is recommended for detection of PUS1 of mouse, rat and 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)], 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).

PUS1 (P-16) is also recommended for detection of PUS1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for PUS1 siRNA (h): sc-61417, PUS1 siRNA (m): sc-61418, PUS1 shRNA Plasmid (h): sc-61417-SH, PUS1 shRNA Plasmid (m): sc-61418-SH, PUS1 shRNA (h) Lentiviral Particles: sc-61417-V and PUS1 shRNA (m) Lentiviral Particles: sc-61418-V.

PUS1 (P-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

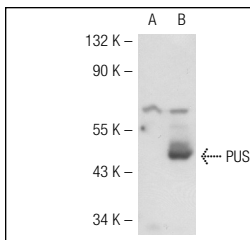
Molecular Weight of PUS1 isoform 1/2: 47/44 kDa.

Positive Controls: PUS1 (h2): 293T Lysate: sc-172003.

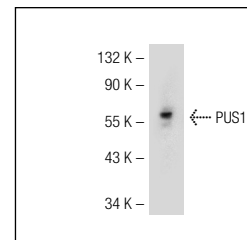
RECOMMENDED SECONDARY REAGENTS

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™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 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™ Mounting Medium: sc-24941.

DATA



PUS1 (P-16): sc-50667. Western blot analysis of PUS1 expression in non-transfected: sc-117752 (A) and human PUS1 transfected: sc-172003 (B) 293T whole cell lysates.



PUS1 (P-16): sc-50667. Western blot analysis of PUS1 expression in 293T whole cell lysate.

RESEARCH USE

For research use only, not for use in diagnostic procedures.