**BACKGROUND**

In eukaryotic cells, the replication of DNA is carried out by a variety of proteins and requires a complex chromosomal replication structure, of which POLE2 (DNA polymerase ε) and DNA primases (PRIMs) are key components. PRIM1 (DNA primase small subunit), also known as p49, is a 420 amino acid protein that exists as a heterodimer with PRIM2A, another DNA primase. Together, PRIM1 and PRIM2A function to synthesize small RNA primers that are required for the proper activity of Okazaki fragments during replication of the DNA lagging strand. Interestingly, the gene encoding PRIM1 is coamplified with other core 12q13.3 amplicon genes in human osteosarcoma. In the retina of zebrafish, mutations in PRIM1 were observed to not affect cell proliferation, though neuronal apoptosis was induced. It is likely that such mutations in PRIM1 lead to activation of the ATM-Chk2-p53 apoptotic pathway.

**REFERENCES**


**CHROMOSOMAL LOCATION**

Genetic locus: PRIM1 (human) mapping to 12q13.3; Prim1 (mouse) mapping to 10 D3.

**SOURCE**

PRIM1 (H-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 135-175 within an internal region of PRIM1 of human origin.

**PRODUCT**

Each vial contains 200 µg IgGκ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Blocking peptide available for competition studies, sc-390265 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

**APPLICATIONS**

PRIM1 (H-9) is recommended for detection of PRIM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

PRIM1 (H-9) is also recommended for detection of PRIM1 in additional species, including equine, canine, bovine and porcine. Suitable for use as control antibody for PRIM1 siRNA (h): sc-95796, PRIM1 siRNA (m): sc-152465, PRIM1 shRNA Plasmid (h): sc-95796-SH, PRIM1 shRNA Plasmid (m): sc-152465-SH, PRIM1 shRNA (h) Lentiviral Particles: sc-95796-V and PRIM1 shRNA (m) Lentiviral Particles: sc-152465-V.

Molecular Weight of PRIM1: 49 kDa.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz®Blocking Reagent: sc-1524614 and Western Blotting Luminal Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**DATA**

**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.