

## PIF1 (G-16): sc-69200

### BACKGROUND

PIF1 is a single-stranded (ss) DNA-dependent ATPase as well as a DNA helicase that unwinds DNA in a 5' to 3' direction with respect to the DNA strand on which it binds first. This protein is critical to DNA replication and telomere length maintenance in *Saccharomyces cerevisiae*. The PIF1 gene is highly conserved from yeast to humans. Mutations in the gene that encodes for PIF1 cause all telomeres to lengthen, suggesting that the PIF1 functions as a catalytic inhibitor of both new telomere formation and telomere elongation. Human PIF1 preferentially binds telomeric DNA where it inhibits telomerase activity. PIF1 specifically counteracts the RecQ homolog Sgs1 helicase activity, and degradation of PIF1 is mediated by the ubiquitin-26S Proteasome pathway.

### REFERENCES

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### CHROMOSOMAL LOCATION

Genetic locus: PIF1 (human) mapping to 15q22.31; Pif1 (mouse) mapping to 9 C.

### SOURCE

PIF1 (G-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PIF1 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69200 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-69200 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

PIF1 (G-16) is recommended for detection of PIF1 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).

PIF1 (G-16) is also recommended for detection of PIF1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PIF1 siRNA (h): sc-76134, PIF1 siRNA (m): sc-76135, PIF1 shRNA Plasmid (h): sc-76134-SH, PIF1 shRNA Plasmid (m): sc-76135-SH, PIF1 shRNA (h) Lentiviral Particles: sc-76134-V and PIF1 shRNA (m) Lentiviral Particles: sc-76135-V.

PIF1 (G-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PIF1: 81 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, K-562 nuclear extract: sc-2130 or NIH/3T3 nuclear extract: sc-2138.

### 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) 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.

### 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.



Try **PIF1 (F-10): sc-48377**, our highly recommended monoclonal alternative to PIF1 (G-16).