

# DUSP27 (Y-15): sc-79465

## BACKGROUND

Dual specificity phosphatases (DSPs) are a subclass of the protein tyrosine phosphatase (PTP) gene superfamily, which are selective for dephosphorylating critical phosphothreonine and phosphotyrosine residues within MAP kinases. DSP gene expression is induced by a host of growth factors and/or cellular stresses, thereby negatively regulating MAP kinase superfamily members, including MAPK/ERK, SAPK/JNK and p38. DUSP27 (dual specificity phosphatase 27), also known as FMDSP or DUPD1 (dual specificity phosphatase and pro isomerase domain containing 1), is a 220 amino acid cytoplasmic protein that belongs to the protein-tyrosine phosphatase family. Expressed in skeletal muscle, liver and adipose tissue, DUSP27 may play a role in energy metabolism. The gene encoding DUSP27 is referred to as DUPD1 and maps to human chromosome 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome.

## REFERENCES

1. Ishibashi, T., et al. 1994. A novel dual specificity phosphatase induced by serum stimulation and heat shock. *J. Biol. Chem.* 269: 29897-29902.
2. Kwak, S.P., et al. 1995. Multiple dual specificity protein tyrosine phosphatases are expressed and regulated differentially in liver cell lines. *J. Biol. Chem.* 270: 1156-1160.
3. Aoki, N., et al. 2001. A growing family of dual specificity phosphatases with low molecular masses. *J. Biochem.* 130: 133-140.
4. Nonneman, D., et al. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. *Anim. Genet.* 35: 338-343.
5. Friedberg, I., et al. 2007. Identification and characterization of DUSP27, a novel dual-specific protein phosphatase. *FEBS Lett.* 581: 2527-2533.
6. Teng, C.H., et al. 2007. Several dual specificity phosphatases coordinate to control the magnitude and duration of JNK activation in signaling response to oxidative stress. *J. Biol. Chem.* 282: 28395-28407.
7. Salojin, K., et al. 2007. Regulation of innate immunity by MAPK dual-specificity phosphatases: knockout models reveal new tricks of old genes. *J. Leukoc. Biol.* 81: 860-869.
8. Jeffrey, K.L., et al. 2007. Targeting dual-specificity phosphatases: manipulating MAP kinase signalling and immune responses. *Nat. Rev. Drug Discov.* 6: 391-403.

## CHROMOSOMAL LOCATION

Genetic locus: DUPD1 (human) mapping to 10q22.2; Dupd1 (mouse) mapping to 14 A3.

## SOURCE

DUSP27 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of DUSP27 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 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-79465 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

DUSP27 (Y-15) is recommended for detection of DUSP27, also known as DUPD1 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).

DUSP27 (Y-15) is also recommended for detection of DUSP27, also known as DUPD1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for DUSP27 siRNA (h): sc-77206, DUSP27 siRNA (m): sc-77207, DUSP27 shRNA Plasmid (h): sc-77206-SH, DUSP27 shRNA Plasmid (m): sc-77207-SH, DUSP27 shRNA (h) Lentiviral Particles: sc-77206-V and DUSP27 shRNA (m) Lentiviral Particles: sc-77207-V.

Molecular Weight of DUSP27: 27 kDa.

## 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.

## SELECT PRODUCT CITATIONS

1. Devi, Y.S., et al. 2011. Inhibition of MAPK by prolactin signaling through the short form of its receptor in the ovary and decidua: involvement of a novel phosphatase. *J. Biol. Chem.* 286: 7609-7618.

## 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.