

# DUSP27 (F-12): sc-515513

## 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. and Dixon, J.E. 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. and Rohrer, G.A. 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

DUSP27 (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 60-86 within an internal region of DUSP27 of human origin.

## PRODUCT

Each vial contains 200 µg IgM 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-515513 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## RESEARCH USE

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

## APPLICATIONS

DUSP27 (F-12) is recommended for detection of DUSP27 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).

Suitable for use as control antibody for DUSP27 siRNA (h): sc-77206, DUSP27 siRNA (m): sc-77207, DUSP27 siRNA (r): sc-156160, DUSP27 shRNA Plasmid (h): sc-77206-SH, DUSP27 shRNA Plasmid (m): sc-77207-SH, DUSP27 shRNA Plasmid (r): sc-156160-SH, DUSP27 shRNA (h) Lentiviral Particles: sc-77206-V, DUSP27 shRNA (m) Lentiviral Particles: sc-77207-V and DUSP27 shRNA (r) Lentiviral Particles: sc-156160-V.

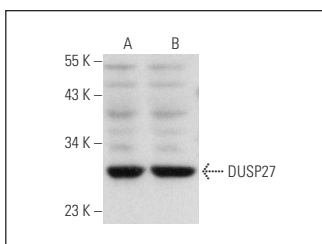
Molecular Weight of DUSP27: 27 kDa.

Positive Controls: human skeletal muscle extract: sc-363776 or rat skeletal muscle extract: sc-364810.

## 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-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (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



DUSP27 (F-12): sc-515513. Western blot analysis of DUSP27 expression in human skeletal muscle (A) and rat skeletal muscle (B) tissue extracts.

## SELECT PRODUCT CITATIONS

1. Qiao, X., et al. 2021. Dual-specificity phosphatase 15 (DUSP15) in the nucleus accumbens is a novel negative regulator of morphine-associated contextual memory. *Addict. Biol.* 26: e12884.

## STORAGE

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