

# PADI3 (F-6): sc-393622

## BACKGROUND

The protein arginine deiminase (PAD) family of proteins, often referred to as peptidylarginine deiminases, catalyze the deimination of arginine residues of proteins. The PAD proteins, designated PADI1-4, are cytoplasmic proteins primarily detected in eosinophils and neutrophils. In the presence of calcium, PAD proteins act as catalysts for the post-translational modification reaction that converts methylarginine to citrulline. PADI3 (peptidyl arginine deiminase, type III), also called PAD3 or PDI3, is a cytoplasmic protein that modulates Filaggrin and Trichohyalin (proteins involved in hair structure) during formation of the hair follicle. Expressed in hair and at very low levels in the epidermis, PADI3 is thought to interact with PADI1 and participate in terminal differentiation of the epidermis.

## REFERENCES

1. Iida, A. and Nakamura, Y. 2004. Identification of 45 novel SNPs in the 83-kb region containing peptidylarginine deiminase types 1 and 3 loci on chromosomal band 1p36.13. *J. Hum. Genet.* 49: 387-390.
2. Nachat, R., et al. 2005. Peptidylarginine deiminase isoforms 1-3 are expressed in the epidermis and involved in the deimination of K1 and Filaggrin. *J. Invest. Dermatol.* 124: 384-393.
3. Méchin, M.C., et al. 2005. The peptidylarginine deiminases expressed in human epidermis differ in their substrate specificities and subcellular locations. *Cell. Mol. Life Sci.* 62: 1984-1995.
4. Balandraud, N., et al. 2005. A rigorous method for multigenic families' functional annotation: the peptidyl arginine deiminase (PADs) proteins family example. *BMC Genomics* 6: 153.
5. Dong, S., et al. 2006. NF-Y and Sp1/Sp3 are involved in the transcriptional regulation of the peptidylarginine deiminase type III gene (PADI3) in human keratinocytes. *Biochem. J.* 397: 449-459.

## CHROMOSOMAL LOCATION

Genetic locus: PADI3 (human) mapping to 1p36.13; Padi3 (mouse) mapping to 4 D3.

## SOURCE

PADI3 (F-6) is a mouse monoclonal antibody raised against amino acids 1-110 mapping at the N-terminus of PADI3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PADI3 (F-6) is available conjugated to agarose (sc-393622 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393622 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393622 PE), fluorescein (sc-393622 FITC), Alexa Fluor® 488 (sc-393622 AF488), Alexa Fluor® 546 (sc-393622 AF546), Alexa Fluor® 594 (sc-393622 AF594) or Alexa Fluor® 647 (sc-393622 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393622 AF680) or Alexa Fluor® 790 (sc-393622 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

PADI3 (F-6) is recommended for detection of PADI3 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 PADI3 siRNA (h): sc-62747, PADI3 siRNA (m): sc-62748, PADI3 shRNA Plasmid (h): sc-62747-SH, PADI3 shRNA Plasmid (m): sc-62748-SH, PADI3 shRNA (h) Lentiviral Particles: sc-62747-V and PADI3 shRNA (m) Lentiviral Particles: sc-62748-V.

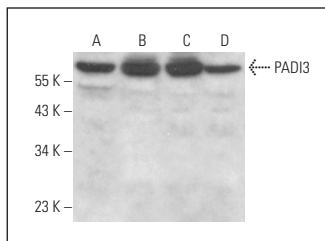
Molecular Weight of PADI3: 70 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410, T24 cell lysate: sc-2292 or c4 whole cell lysate: sc-364186.

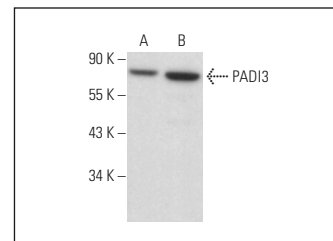
## RECOMMENDED SUPPORT REAGENTS

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 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



PADI3 (F-6): sc-393622. Western blot analysis of PADI3 expression in NIH/3T3 (A), c4 (B), P19 (C) and 3T3-L1 (D) whole cell lysates.



PADI3 (F-6): sc-393622. Western blot analysis of PADI3 expression in SK-N-SH (A) and T24 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Sharma, P., et al. 2018. Arginine citrullination at the C-terminal domain controls RNA polymerase II transcription. *Mol. Cell* 73: 84-96.

## 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.

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