

# PADI3 (G-19): sc-55691

## 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 posttranslational 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 (G-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PADI3 of human origin.

## 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-55691 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PADI3 (G-19) is recommended for detection of PADI3 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

PADI3 (G-19) is also recommended for detection of PADI3 in additional species, including equine, canine and porcine.

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.

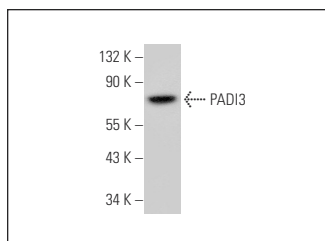
Molecular Weight of PADI3: 70 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



PADI3 (G-19): sc-55691. Western blot analysis of PADI3 expression in RT-4 whole cell lysate.

## RESEARCH USE

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

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Try **PADI3 (F-6): sc-393622**, our highly recommended monoclonal alternative to PADI3 (G-19).