

# PADI4 (H-70): sc-98991

## BACKGROUND

The protein arginine deiminase (PAD) family of proteins are often referred to as peptidylarginine deiminases. They catalyze the deimination of arginine residues of proteins. In the presence of calcium, the proteins in the PAD family act as catalysts for the posttranslational modification reaction that converts methylarginine to citrulline. The PAD proteins are cytoplasmic proteins primarily detected in eosinophils and neutrophils. The gene encoding for PADI4 is believed to be a rheumatoid arthritis susceptibility locus. By increasing the citrullination of proteins in rheumatoid arthritis synovial tissues, it may play a role in the pathogenesis of the disease.

## REFERENCES

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- Barton, A., et al. 2005. Investigation of polymorphisms in the PADI4 gene in determining severity of inflammatory polyarthritis. *Ann. Rheum. Dis.* 64: 1311-1315.
- Cantaert, T., et al. 2005. Functional haplotypes of PADI4: relevance for rheumatoid arthritis-specific synovial intracellular citrullinated proteins and anti-citrullinated protein antibodies. *Ann. Rheum. Dis.* 64: 1316-1320.
- Kubota, K., et al. 2005. Determination of sites citrullinated by peptidylarginine deiminase using 180 stable isotope labeling and mass spectrometry. *Rapid Commun. Mass Spectrom.* 19: 683-688.
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- Yamada, R., et al. 2005. Citrullinated proteins in rheumatoid arthritis. *Front. Biosci.* 10: 54-64.
- Chang, X., et al. 2005. Localization of peptidylarginine deiminase 4 (PADI4) and citrullinated protein in synovial tissue of rheumatoid arthritis. *Rheumatology* 44: 40-50.
- Chang, X., et al. 2005. The inhibition of antithrombin by peptidylarginine deiminase 4 may contribute to pathogenesis of rheumatoid arthritis. *Rheumatology* 44: 293-298.

## CHROMOSOMAL LOCATION

Genetic locus: PADI4 (human) mapping to 1p36.13.

## SOURCE

PADI4 (H-70) is a rabbit polyclonal antibody raised against amino acids 181-250 mapping within an internal region of PADI4 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.

## RESEARCH USE

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

## APPLICATIONS

PADI4 (H-70) is recommended for detection of PADI4 of 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

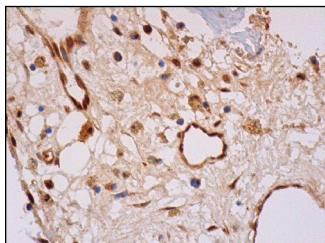
Suitable for use as control antibody for PADI4 siRNA (h): sc-61283, PADI4 shRNA Plasmid (h): sc-61283-SH and PADI4 shRNA (h) Lentiviral Particles: sc-61283-V.

Molecular Weight of PADI4: 67 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



PADI4 (H-70): sc-98991. Immunoperoxidase staining of formalin fixed, paraffin-embedded human bone marrow tissue showing nuclear and cytoplasmic staining of hematopoietic cells and endothelial cells.

## STORAGE

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

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Try **PADI4 (A-11): sc-365369** or **PADI4 (C-3): sc-166645**, our highly recommended monoclonal alternatives to PADI4 (H-70).