

PADI4 (K-18): sc-47287

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.
- Nakayama-Hamada, M., et al. 2005. Comparison of enzymatic properties between hPADI2 and hPADI4. *Biochem. Biophys. Res. Commun.* 327: 192-200.
- Yamada, R., et al. 2005. Citrullinated proteins in rheumatoid arthritis. *Front. Biosci.* 10: 54-64.

CHROMOSOMAL LOCATION

Genetic locus: PADI4 (human) mapping to 1p36.13; Padi4 (mouse) mapping to 4 E1.

SOURCE

PADI4 (K-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PADI4 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-47287 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

PADI4 (K-18) is recommended for detection of PADI4 of human and, to a lesser extent, mouse and rat 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); may cross-react with PADI1, PADI3 and PADI6.

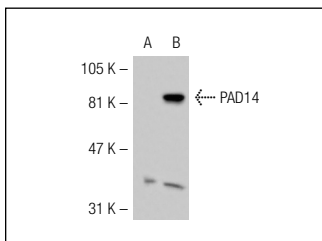
Molecular Weight of PADI4: 67 kDa.

Positive Controls: mouse PBL or PADI4 (h): 293T lysate: sc-114204.

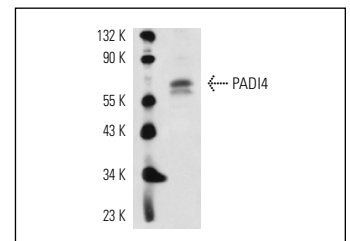
RECOMMENDED SECONDARY REAGENTS

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



PADI4 (K-18): sc-47287. Western blot analysis of PADI4 expression in non-transfected: sc-117752 (A) and human PADI4 transfected: sc-114204 (B) 293T whole cell lysates.



PADI4 (K-18): sc-47287. Western blot analysis of PADI4 expression in mouse PBL whole cell lysate.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


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Try **PADI4 (A-11): sc-365369** or **PADI4 (C-3): sc-166645**, our highly recommended monoclonal alternatives to PADI4 (K-18).