SANTA CRUZ BIOTECHNOLOGY, INC.

PADI2 (Z-22): sc-133877

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The protein arginine deiminase (PAD) family of proteins, often referred to as peptidylarginine deiminases, 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 methyl-arginine to citrulline. The PAD proteins are cytoplasmic proteins primarily detected in eosinophils and neutrophils. The only tissue that contains all four forms of PAD (PADI1-4) is epidermis. PADI2 may play a crucial role during terminal differentiation of epidermal keratinocytes.

REFERENCES

1. Ishigami, A., et al. 2002. Human peptidylarginine deiminase type II: molecular cloning, gene organization, and expression in human skin. Arch. Biochem. Biophys. 407: 25-31.
2. Chavanas, S., et al. 2004. Comparative analysis of the mouse and human peptidylarginine deiminase gene clusters reveals highly conserved non-coding segments and a new human gene, PADI6. Gene 330: 19-27.
3. Dong, S., et al. 2005. Regulation of the expression of peptidylarginine deiminase type II gene (PADI2) in human keratinocytes involves Sp1 and Sp3 transcription factors. J. Invest. Dermatol. 124: 1026-1033.
4. Nakayama-Hamada, M., et al. 2005. Comparison of enzymatic properties between hPADI2 and hPADI4. Biochem. Biophys. Res. Commun. 327: 192-200.
5. Bhattacharya, S.K., et al. 2006. Proteomics implicates peptidyl arginine deiminase 2 and optic nerve citrullination in glaucoma pathogenesis. Invest. Ophthalmol. Vis. Sci. 47: 2508-2514.
6. Roth, E.B., et al. 2006. Antibodies against transglutaminases, peptidylarginine deiminase and citrulline in rheumatoid arthritis—new pathways to epitope spreading. Clin. Exp. Rheumatol. 24: 12-18.

CHROMOSOMAL LOCATION

Genetic locus: PADI2 (human) mapping to 1p36.13; Padi2 (mouse) mapping to 4 D3.

SOURCE

PADI2 (Z-22) is a an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of PADI2 of human origin.

PRODUCT

Each vial contains 50 µg IgG in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

PROTOCOLS

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

APPLICATIONS

PADI2 (Z-22) is recommended for detection of PADI2 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PADI2 (Z-22) is also recommended for detection of PADI2 in additional species, including equine, bovine and canine.

Suitable for use as control antibody for PADI2 siRNA (h): sc-61281, PADI2 siRNA (m): sc-61282, PADI2 shRNA Plasmid (h): sc-61281-SH, PADI2 shRNA Plasmid (m): sc-61282-SH, PADI2 shRNA (h) Lentiviral Particles: sc-61281-V and PADI2 shRNA (m) Lentiviral Particles: sc-61282-V.

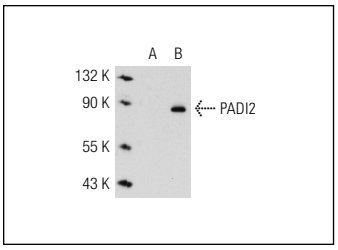
Molecular Weight of PADI2: 75 kDa.

Positive Controls: PADI2 (m): 293T Lysate: sc-125775 or Jurkat whole cell lysate: sc-2204.

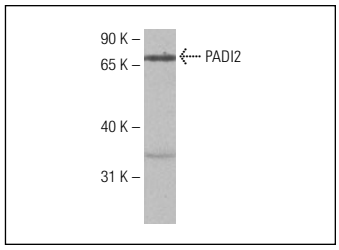
RECOMMENDED SECONDARY REAGENTS

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).

DATA



PADI2 (Z-22): sc-133877. Western blot analysis of PADI2 expression in non-transfected: sc-117752 (**A**) and mouse PADI2 transfected: sc-125775 (**B**) 293T whole cell lysates.



PADI2 (Z-22): sc-133877. Western blot analysis of PADI2 expression in Jurkat whole cell lysate.

RESEARCH USE

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