

PADI2 (m): 293T Lysate: sc-125775

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., Ohsawa, T., Asaga, H., Akiyama, K., Kuramoto, M. and Maruyama, N. 2002. Human peptidylarginine deiminase type II: molecular cloning, gene organization, and expression in human skin. *Arch. Biochem. Biophys.* 407: 25-31.
2. Chavanas, S., Mechin, M.C., Takahara, H., Kawada, A., Nachat, R., Serre, G. and Simon, M. 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., Kojima, T., Shiraiwa, M., Mechin, M.C., Chavanas, S., Serre, G., Simon, M., Kawada, A. and Takahara, H. 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., Suzuki, A., Kubota, K., Takazawa, T., Ohsaka, M., Kawaida, R., Ono, M., Kasuya, A., Furukawa, H., Yamada, R. and Yamamoto, K. 2005. Comparison of enzymatic properties between hPADI2 and hPADI4. *Biochem. Biophys. Res. Commun.* 327: 192-200.
5. Bhattacharya, S.K., Crabb, J.S., Bonilha, V.L., Gu, X., Takahara, H. and Crabb, J.W. 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., Stenberg, P., Book, C. and Sjöberg, K. 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 (mouse) mapping to 4 D3.

PRODUCT

PADI2 (m): 293T Lysate represents a lysate of mouse PADI2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

PADI2 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive PADI2 antibodies. Recommended use: 10-20 µl per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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