

Recombinant Mouse Padi4 Protein, His-tagged

Cat. No. Padi4-038M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Active recombinant N-terminal His-tagged full length mouse Padi4 protein (2-666) was protein expressed in insect cells
Species	Mouse
Source	Insect Cells
ProteinLength	2-666
Description	Catalyzes the citrullination/deimination of arginine residues of proteins such as histones, thereby playing a key role in histone code and regulation of stem cell maintenance (PubMed:15339660, PubMed:32528174). Citrullinates histone H1 at 'Arg-54' (to form H1R54ci), histone H3 at 'Arg-2', 'Arg-8', 'Arg-17' and/or 'Arg-26' (to form H3R2ci, H3R8ci, H3R17ci, H3R26ci, respectively) and histone H4 at 'Arg-3' (to form H4R3ci) (PubMed:15339660). Acts as a key regulator of stem cell maintenance by mediating citrullination of histone H1: citrullination of 'Arg-54' of histone H1 (H1R54ci) results in H1 displacement from chromatin and global chromatin decondensation, thereby promoting pluripotency and stem cell maintenance (PubMed:24463520, PubMed:32528174). Promotes profound chromatin decondensation during the innate immune response to infection in neutrophils by mediating formation of H1R54ci (PubMed:20733033, PubMed:23650392). Required for the formation of neutrophil extracellular traps (NETs); NETs are mainly composed of DNA fibers and are released by neutrophils to bind pathogens during inflammation (PubMed:20733033, PubMed:32528174). Citrullination of histone H3 prevents their

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methylation by CARM1 and HRMT1L2/PRMT1 and represses transcription (By similarity). Citrullinates EP300/P300 at 'Arg-2142', which favors its interaction with NCOA2/GRIP1 (By similarity).

Molecular Mass 76.08 kDa

Purity ≥90% as determined by SDS-PAGE

Unit Definition One unit is defined as the amount of enzyme to produce 1 nmol of NH₄⁺ per minute at 37 centigrade in 50 mM HEPES, pH 7.7, containing 10 mM calcium chloride, 5 mM DTT, and 2mM N-α-benzoyl-L-arginine ethyl ester (BAEE).

Applications ELISA, WB, and Enzyme activity assay

Stability ≥ 6 months

Storage At -80 centigrade.

Storage Buffer 50 mM Tris HCl, pH 8.0, with 500 mM NaCl and 5% glycerol

GENE INFORMATION

Gene Name Padi4 peptidyl arginine deiminase, type IV [Mus musculus (house mouse)]

Official Symbol Padi4

Synonyms Padi4; peptidyl arginine deiminase, type IV; Pa; Pd; Pad4; Pdi4; protein-arginine deiminase type-4; PAD type IV; peptidylarginine deiminase IV; protein-arginine deiminase type IV; EC 3.5.3.15

Gene ID 18602

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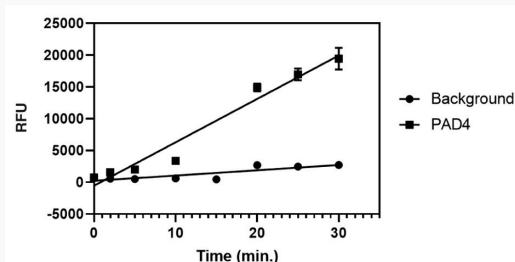
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mRNA Refseq [NM_011061](#)

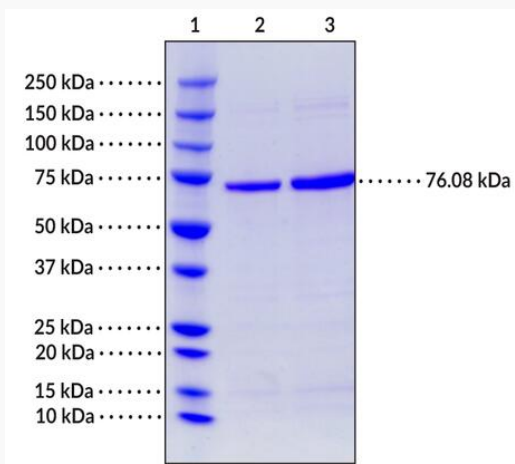
Protein Refseq [NP_035191](#)

UniProt ID [Q9Z183](#)

**PAD4 (mouse,
recombinant)
Activity**



**SDS-PAGE analysis
of PADI4**



Lane 1: MW Markers

Lane 2: PADI4 (2 µg)

Lane 3: PADI4 (4 µg)

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