

## PADI4 Protein, Human (Biotinylated, His)

<b>Cat. No.:</b>	HY-P701030
<b>Synonyms:</b>	Protein-arginine deiminase type-4; HL-60 PAD; HL60 PAD; HL-60; PAD; PAD4; PADI5; PDI5
<b>Species:</b>	Human
<b>Source:</b>	E. coli
<b>Accession:</b>	Q9UM07 (M1-P663)
<b>Gene ID:</b>	23569
<b>Molecular Weight:</b>	76.6 kDa

### PROPERTIES

<b>Biological Activity</b>	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
<b>Appearance</b>	Solution.
<b>Formulation</b>	Supplied as a 0.22µm filtered solution of LTSB.
<b>Endotoxin Level</b>	<1 EU/µg, determined by LAL method.
<b>Reconstitution</b>	N/A.
<b>Storage &amp; Stability</b>	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
<b>Shipping</b>	Shipping with dry ice.

### DESCRIPTION

<b>Background</b>	<p>PADI4, a protein crucial for the histone code, catalyzes the citrullination/deimination of arginine residues in various proteins, including histones. Specifically, it citrullinates histone H1 at 'Arg-54' (forming H1R54ci), histone H3 at 'Arg-2,' 'Arg-8,' 'Arg-17,' and/or 'Arg-26' (forming H3R2ci, H3R8ci, H3R17ci, H3R26ci, respectively), and histone H4 at 'Arg-3' (forming H4R3ci). This enzymatic activity plays a key role in the regulation of stem cell maintenance by inducing chromatin decondensation and pluripotency through the displacement of H1 from chromatin. Additionally, PADI4 is involved in the innate immune response, mediating chromatin decondensation in neutrophils during infection and contributing to the formation of neutrophil extracellular traps (NETs). Furthermore, it prevents the methylation of histone H3 by CARM1 and HRMT1L2/PRMT1, thereby repressing transcription. Notably, PADI4 citrullinates EP300/P300 at 'Arg-2142,' promoting its interaction with NCOA2/GRIP1.</p>
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**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA