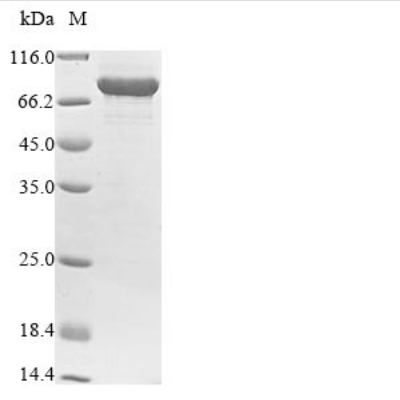
Recombinant Human Protein-arginine deiminase type-4 (PADI4)

Product Code	CSB-EP890757HU
Relevance	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. 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). 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. Promotes profound chromatin decondensation during the innate immune response to infection in neutrophils by mediating formation of H1R54ci. Citrullination of histone H3 prevents their methylation by CARM1 and HRMT1L2/PRMT1 and represses transcription. Citrullinates EP300/P300 at 'Arg-2142', which favors its interaction with NCOA2/GRIP1.
Abbreviation	Recombinant Human PADI4 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9UM07
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MAQGTLIRVTPEQPTHAVCVLGTLTQLDICSSAPEDCTSFSINASPGVVVDIAH GPPAKKKSTGSSTWPLDPGVEVTLTMKVASGSTGDQKVQISYYGPKTPPVKA LLYLTGVEISLCADITRTGKVKPTRAVKDQRTWTWGPCGQGAILLVNCDRDNL ESSAMDCEDDEVLDSEDLQDMSLMTLSTKTPKDFFTNHTLVLHVARSEMDKV RVFQATRGKLSSKCSVVLGPKWPSHYLMVPGGKHNMDFYVEALAFPDTDFP GLITLTISLLDTSNLELPEAVVFQDSVVFRVAPWIMTPNTQPPQEVYACSIFENE DFLKSVTTLAMKAKCKLTICPEEENMDDQWMQDEMEIGYIQAPHKTLPVVFDS PRNRGLKEFPIKRVMGPDFGYVTRGPQTGGISGLDSFGNLEVSPPVTVRGKE YPLGRILFGDSCYPSNDSRQMHQALQDFLSAQQVQAPVKLYSDWLSVGHVDE FLSFVPAPDRKGFRLLLASPRSCYKLFQEQQNEGHGEALLFEGIKKKKQQKIK NILSNKTLREHNSFVERCIDWNRELLKRELGLAESDIIDIPQLFKLKEFSKAEAFF PNMVNMLVLGKHLGIPKPFGPVINGRCCLEEKVCSLLEPLGLQCTFINDFFTYHI RHGEVHCGTNVRRKPFSFKWWNMVP
Research Area	Epigenetics and Nuclear Signaling
Source	E.coli
Target Names	PADI4

Protein Names	HL-60 PAD Peptidylarginine deiminase IV Protein-arginine deiminase type IV PAD4, PADI5, PDI5
Expression Region	1-663aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	81.1 kDa
Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Discover the high-quality Recombinant Human Protein-arginine Deiminase Type-4 (PADI4) protein, specifically designed to advance your research in epigenetics and nuclear signaling. PADI4 is an enzyme that plays a vital role in histone modifications and gene expression regulation by catalyzing the conversion of arginine residues to citrulline. This protein is implicated in various physiological and pathological processes, including immune response, gene regulation, and autoimmune diseases.

Our Recombinant Human PADI4 protein is expressed in E. coli, ensuring an efficient and reliable production process. The protein encompasses the full-length sequence (1-663aa) and is fused with an N-terminal 10xHis-tag and a C-terminal Myc-tag for convenient purification and detection. With a purity of greater than 85% as determined by SDS-PAGE, our PADI4 protein provides consistent performance for your experiments. The protein is available in both liquid and lyophilized powder forms, catering to the diverse requirements of your epigenetics and nuclear signaling research.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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of lyophilized form is 12 months at -20°C/-80°C.