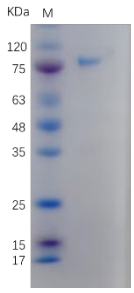
Specification

Product name:	Peptidyl Arginine Deiminase
Source:	from rabbit skeletal muscle
Accession #:	/
SDS-PAGE:	75-120 kDa, reducing conditions
Construction：	NT-ProBNP with 6His tag at N-terminal
Predicted Molecular Mass:	80kDa
Activity:	One unit will produce 1 μ N- α moles of benzoylcitrulline ethyl ester per hour from BAEE at 55° C, pH 7.2
Application:	/
Form:	Liquid
Formulation:	20 mM Tris-HCl，pH 7.4， 10 mM 2-Mercaptoethanol、1 mM EDTA ，10% glycerol
Stability & Storage:	Stable at -80°C
Shipping condition:	The product is shipped on ice pack.Upon receiving, store it immediately at the recommended temperature.
Conc. Determined:	BCA
Purity:	＞90%

SDS-PAGE



Greater than 90% as determined by reducing SDS-PAGE. (QC verified).

BACKGROUND

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.

References:

1. Profibrotic impact of PAD4-driven macrophage extracellular traps in ulcerative colitis.
2. PAD4 promotes macrophage migration to aggravate tubulointerstitial injury in diabetic kidney disease.
3. Taohe Chengqi decoction inhibits PAD4-mediated neutrophil extracellular traps and mitigates acute lung injury induced by sepsis.
4. New structural scaffolds to enhance the metabolic stability of arginine-derived PAD4 inhibitors.

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