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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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See the following pages for more information!

Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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PRODUCT INFORMATION

PAD6 (human recombinant)

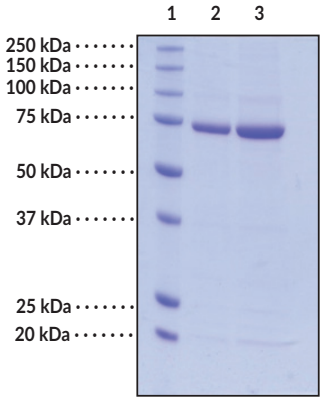
Item No. 24615

Overview and Properties

Synonyms:	PADI6, hPADVI, Peptidylarginine Deiminase 6, Protein Arginine Deiminase 6
Source:	N-Terminal hexahistidine-tagged enzyme isolated from a baculovirus overexpression system
Amino acids:	717
Uniprot No.:	Q6TGC4
Molecular Weight:	80.62 kDa
Storage:	-80°C (as supplied)
Stability:	≥2 years
Supplied in:	50 mM HEPES, pH 8.0, with 300 mM sodium chloride, 1 mM DTT, and 10% glycerol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: PAD6 (2 µg)
Lane 3: PAD6 (4 µg)

Representative gel image shown; actual purity may vary between each batch.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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PRODUCT INFORMATION

Description

Protein arginine deiminase 6 (PAD6) is a homodimeric guanidine-modifying enzyme belonging to the amidinotransferase superfamily.[1] It is a calcium-dependent enzyme that catalyzes the post-translational modification of target proteins by converting arginine to citrulline. PAD6 is expressed in mammalian oocytes, sperm cells, and early embryos.[2] In mammalian oocytes and early embryo cytoplasm, its expression is localized to cytoskeletal sheets, dynamic structures containing various keratins, which are major targets for citrullination. *PAD6*$^{-/-}$ oocytes exhibit reduced microtubule acetylation and defective organelle positioning and redistribution, suggesting a role for PAD6 in regulating microtubule-mediated organelle movement and positioning.[3] *PAD6*$^{-/-}$ female, but not male, mice are infertile due to a reduction of *de novo* protein synthesis, cytoskeletal sheet formation, and ribosomal RNA which induces arrest of zygote development at the two-cell stage.[2,3] PAD6 is regulated by newborn ovary homeobox (Nobox), as its promoter contains a Nobox DNA-binding element (NBE) and expression and activity of PAD6 are decreased in *Nobox*$^{-/-}$ mouse ovaries.[4] In human females, homozygous nonsense mutations and compound-heterozygous mutations in PAD6 induce early embryonic arrest following *in vitro* fertilization (IVF) or intracytoplasmic sperm injection (ICSI).[5]

References

1. Bicker, K.L. and Thompson, P.R. The protein arginine deiminases: Structure, function, inhibition, and disease. *Bioplymers* **99(2)**, 155-163 (2013).
2. Esposito, G., Vitale, A.M., Leijten, F.P., *et al.* Peptidylarginine deiminase (PAD) 6 is essential for oocyte cytoskeletal sheet formation and female fertility. *Mol. Cell Endocrinol.* **273(1-2)**, 25-31 (2007).
3. Kan, R., Yurttas, P., Kim, B., *et al.* Regulation of mouse oocyte microtubule and organelle dynamics by PADI6 and the cytoplasmic lattices. *Dev. Biol.* **350(2)**, 311-322 (2011).
4. Choi, M., Lee, O.H., Jeon, S., *et al.* The oocyte-specific transcription factor, Nobox, regulates the expression of Pad6, a peptidylarginine deiminase in the oocyte. *FEBS Lett.* **584(16)**, 3629-3634 (2010).
5. Xu, Y., Shi, Y., Fu, J., *et al.* Mutations in PADI6 cause female infertility characterized by early embryonic arrest. *Am. J. Hum. Genet.* **99(3)**, 744-752 (2016).

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