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PADI6 Rabbit pAb

Catalog # AP97716

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q6TGC4
Other Accession	Q6TGC4
Reactivity	Mouse
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	77727
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PADI6
Epitope Specificity	101-200/694
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein arginine deiminase family.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	This gene encodes a member of the peptidyl arginine deiminase family of enzymes, which catalyze the post-translational deimination of proteins by converting arginine residues into citrullines in the presence of calcium ions. The family members have distinct substrate specificities and tissue-specific expression patterns. This protein may play a role in cytoskeletal reorganization in the egg and in early embryo development. [provided by RefSeq, Sep 2012]

Additional Information

Gene ID	353238
Other Names	OZEMA16; PREMBL2; hPADVI; PADI6_HUMAN; PADI6; Peptidyl arginine deiminase-like protein; Peptidylarginine deiminase VI (hPADVI); Protein-arginine deiminase type VI; Protein-arginine deiminase type-6; PAD6; peptidyl arginine deiminase 6; peptidyl arginine deiminase, type VI
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PADI6 {ECO:0000303|PubMed:15087120, ECO:0000312|HGNC:HGNC:20449}
Function	Structural constituent of cytoplasmic lattices, which plays a key role in early embryonic development (PubMed:37922900, PubMed:41772195). Cytoplasmic lattices consist in fibrous structures found in the cytoplasm of oocytes and preimplantation embryos: they are required to store maternal proteins critical for embryonic development, such as ribosomal proteins, cytoskeletal tubulins and proteins controlling epigenetic reprogramming of the preimplantation embryo, in a poised but restrained state, regulating their availability for early embryonic development (PubMed:37922900, PubMed:41772195). Cytoplasmic lattices also tightly control ubiquitination during the oocyte-to- embryo transition by trapping E3 ubiquitin-protein ligase UHRF1 in a compact autoinhibited conformation and maintaining SCF ubiquitin ligase complexes inactive (PubMed:41772195). PADI6 oligomers acts as an essential structural scaffolding element of cytoplasmic lattices (By similarity). In contrast to other members of the family, does not show protein-arginine deiminase activity due to its inability to bind Ca(2+) (PubMed:38656308, PubMed:39286527).
Cellular Location	Cytoplasm. Cytoplasmic vesicle, secretory vesicle, Cortical granule {ECO:0000250|UniProtKB:Q8K3V4}. Nucleus {ECO:0000250|UniProtKB:Q8K3V4}. Note=Core component of cytoplasmic lattices in oocytes (PubMed:37922900). Also nuclear (By similarity) {ECO:0000250|UniProtKB:Q8K3V4, ECO:0000269|PubMed:37922900}
Tissue Location	Highly expressed in oocytes and weakly expressed in other somatic tissues.

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