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Ecat1 Rabbit pAb

Catalog # AP99613

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q587J8
Other Accession	Q587J8
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	24306
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Ecat1
Epitope Specificity	1-100/217
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 KHDC1 family. Contains 1 KH domain.
DISEASE	Defects in KHDC3L are the cause of hydatidiform mole recurrent type 2 (HYDM2) [MIM:614293]. A disorder characterized by excessive trophoblast development that produces a growing mass of tissue inside the uterus at the beginning of a pregnancy. It leads to abnormal pregnancies with no embryo, and cystic degeneration of the chorionic villi.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	ECAT1 (ES cell-associated transcript 1 protein) is a 217 amino acid protein that belongs to the KHDC1 family. The ECAT1 protein contains an atypical KH domain with amino acid changes at critical sites, suggesting that it may not bind RNA. Expression of ECAT1 appears to be maximal in germinal vesicle oocytes, it tails off through metaphase II oocytes and is undetectable following the completion of the oocyte to embryo transition. Specifically expressed in the oocytes, recent studies suggest that ECAT1 may function as a regulator of genomic imprinting in the oocyte. Defects in ECAT1 are the cause of hydatidiform mole recurrent type 2 (HYDM2), a disorder characterized by excessive trophoblast development that produces a growing mass of tissue inside the uterus at the beginning of a pregnancy. HYDM2 leads to abnormal pregnancies with no embryo, and cystic degeneration of the chorionic villi.

Additional Information

Gene ID	154288
Other Names	C6orf221; ECAT1; HYDM2; KHDC3_HUMAN; KHDC3L; ES cell-associated transcript 1 protein; KHDC3-like protein; KH domain containing 3 like, subcortical maternal complex member; chromosome 6 open reading frame 221; KH domain containing 3-like, subcortical maternal complex member; ES cell associated transcript 1

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	KHDC3L {ECO:0000303|PubMed:31609975, ECO:0000312|HGNC:HGNC:33699}
Function	Component of the subcortical maternal complex (SCMC), a multiprotein complex that plays a key role in early embryonic development (By similarity). The SCMC complex is a structural constituent of cytoplasmic lattices, which consist in fibrous structures found in the cytoplasm of oocytes and preimplantation embryos (By similarity). 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 (By similarity). 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 (By similarity). KHDC3 ensures proper spindle assembly by regulating the localization of AURKA via RHOA signaling and of PLK1 via a RHOA-independent process (By similarity). Required for the localization of MAD2L1 to kinetochores to enable spindle assembly checkpoint function (By similarity). As part of the OOEP-KHDC3 scaffold, recruits BLM and TRIM25 to DNA replication forks, thereby promoting the ubiquitination of BLM by TRIM25, enhancing BLM retainment at replication forks and therefore promoting stalled replication fork restart (By similarity). Regulates homologous recombination-mediated DNA repair via recruitment of RAD51 to sites of DNA double-strand breaks, and sustainment of PARP1 activity, which in turn modulates downstream ATM or ATR activation (PubMed:31609975). Activation of ATM or ATR in response to DNA double-strand breaks may be cell-type specific (By similarity). Its role in DNA double-strand break repair is independent of its role in restarting stalled replication forks (By similarity). Promotes neural stem cell neurogenesis and neuronal differentiation in the hippocampus (By similarity). May regulate normal development of learning, memory and anxiety (By similarity). Capable of binding RNA (By similarity).
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q9CWU5}. Cytoplasm, cell cortex. Nucleus. Mitochondrion {ECO:0000250|UniProtKB:Q9CWU5}. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome {ECO:0000250|UniProtKB:Q9CWU5} Chromosome. Note=Core component of cytoplasmic lattices in oocytes (By similarity). Expressed in the subcortex of oocytes (By similarity). Located throughout the cell cortex of ovulated eggs in a complex with NLRP5 (By similarity). After fertilization, restricted to the apical cortex and excluded from regions of cell-cell contact (By similarity). Localized to centrosomes during interphase and mitosis (By similarity). Localizes to sites of DNA double-strand break repair (PubMed:31609975) {ECO:0000250|UniProtKB:Q9CWU5, ECO:0000269|PubMed:31609975}
Tissue Location	Expression appears to be maximal in germinal vesicle oocytes, it tails off through metaphase II oocytes and is undetectable following the completion of the oocyte to embryo transition.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.