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ECAT1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11238a

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	Q587J8
Other Accession	NP_001017361
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB20543
Calculated MW	24306
Antigen Region	20-48

Additional Information

Gene ID	154288
Other Names	KHDC3-like protein, ES cell-associated transcript 1 protein, KHDC3L, C6orf221, ECAT1
Target/Specificity	This ECAT1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 20-48 amino acids from the N-terminal region of human ECAT1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ECAT1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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

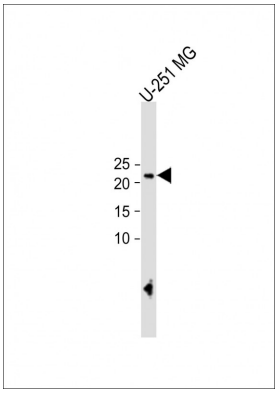
Expression appears to be maximal in germinal vesicle oocytes, it tails off through metaphase II oocytes and is undetectable following the completion of the oocyte to embryo transition.

References

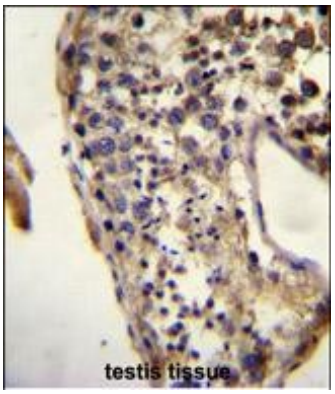
Pierre, A., et al. Genomics 90(5):583-594(2007) Mitsui, K., et al. Cell 113(5):631-642(2003)

Images

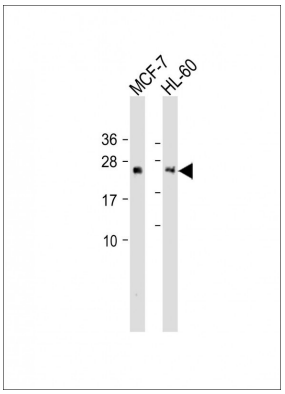
All lanes : Anti-ECAT1 Antibody (N-term) at 1:1000 dilution+ U-251 MG whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 24kDa Blocking/Dilution buffer: 5%



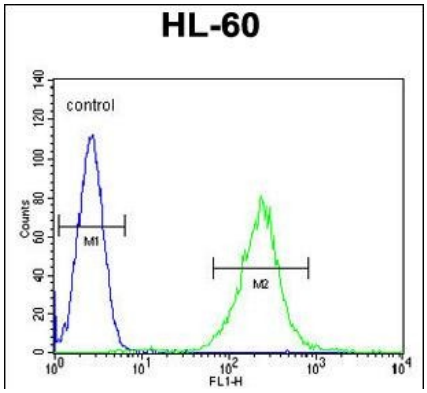
NFDM/TBST.



ECAT1 Antibody (N-term) (Cat. #AP11238a)immunohistochemistry analysis in formalin fixed and paraffin embedded human testis tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of ECAT1 Antibody (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.



All lanes : Anti-ECAT1 Antibody (N-term) at 1:500 or 1:1000 dilution Lane 1: MCF-7 whole cell lysate Lane 2: HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615) at 1/15000 dilution. Observed band size : 24kDa Blocking/Dilution buffer: 5% NFDM/TBST.



ECAT1 Antibody (N-term) (Cat. #AP11238a) flow cytometric analysis of HL-60 cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Report of four new patients with protein-truncating mutations in C6orf221/KHDC3L and colocalization with NLRP7.
- NLRP7 and KHDC3L, the two maternal-effect proteins responsible for recurrent hydatidiform moles, co-localize to the oocyte cytoskeleton.

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