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HECT E3 ubiquitin ligase Rabbit pAb

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Catalog # AP55999

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q9UII4
Reactivity	Rat, Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	116852
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human HECT E3 ubiquitin ligase
Epitope Specificity	1-100/1024
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm, perinuclear region. Note=Associated with the polyribosomes, probably via the 60S subunit.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	HECT E3 ubiquitin ligase is a member of the HERC family of ubiquitin ligases and encodes a protein with a HECT domain and five RCC1 repeats. Pro-inflammatory cytokines upregulate expression of this gene in endothelial cells. The protein localizes to the cytoplasm and perinuclear region and functions as an interferon-induced E3 protein ligase that mediates ISGylation of protein targets. The gene lies in a cluster of HERC family genes on chromosome 4.

Additional Information

Gene ID	51191
Other Names	E3 ISG15--protein ligase HERC5, 2.3.2.-, Cyclin-E-binding protein 1, HECT domain and RCC1-like domain-containing protein 5, HERC5, CEB1, CEBP1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=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	HERC5 {ECO:0000303|PubMed:38421872, ECO:0000312|HGNC:HGNC:24368}
Function	Major E3 ligase for ISG15 conjugation (PubMed: 16407192, PubMed:16815975, PubMed:16884686, PubMed:20308324, PubMed:20542004, PubMed:26355087, PubMed:27534820, PubMed:27564865, PubMed:37279284, PubMed:38421872, PubMed:38652662, PubMed:40184173). Functions as part of the ISGylation machinery that recognizes target proteins in a broad and relatively non-specific manner (PubMed:16407192, PubMed:16815975, PubMed:16884686, PubMed:20308324, PubMed:20542004, PubMed:26355087, PubMed:27534820, PubMed:27564865, PubMed:37279284). Physically associated with polyribosomes, broadly modifies newly synthesized proteins in a cotranslational manner (PubMed:20542004). Acts as a positive regulator of innate antiviral response in cells induced by interferon by mediating ISGylation of proteins involved in innate immunity, such as CGAS, IRF3, IFIH1/MDA5 and STING1 (PubMed:16815975, PubMed:20308324, PubMed:38421872, PubMed:38652662, PubMed:40184173). Catalyzes ISGylation of IRF3 which results in sustained activation, it attenuates IRF3-PIN1 interaction, which antagonizes IRF3 ubiquitination and degradation, and boosts the antiviral response (PubMed:20308324). Also regulates innate antiviral response by mediating ISGylation of CGAS and STING1, thereby promoting activation of cGAS-STING signaling (PubMed:38421872, PubMed:38652662). Catalyzes ISGylation of IFIH1/MDA5, promoting IFIH1/MDA5 oligomerization and immune signal transduction (PubMed:40184173). Also regulates innate immunity by catalyzing ISGylation of viral proteins: newly translated viral proteins are primary targets of ISG15 in interferon-stimulated cells (PubMed:20133869, PubMed:20385878, PubMed:20542004, PubMed:22093708, PubMed:34572049). Interferes with the function of key viral structural proteins such as ebolavirus structural protein VP40 or HIV-1 protein GAG (PubMed:22093708, PubMed:34572049). Catalyzes ISGylation of influenza A viral NS1 which attenuates virulence; ISGylated NS1 fails to form homodimers and thus to interact with its RNA targets (PubMed:20133869, PubMed:20385878). Catalyzes ISGylation of papillomavirus type 16 L1 protein which results in dominant-negative effect on virus infectivity (PubMed:20542004). Mediates ISGylation of the phosphatase PTEN leading to its degradation, thus alleviating its suppression of the PI3K-AKT signaling pathway and promoting the production of cytokines that facilitate bacterial clearance (PubMed:37279284). Promotes parkin/PRKN ubiquitin E3 ligase activity by suppressing the intramolecular interaction that maintains its autoinhibited conformation (PubMed:27534820).
Cellular Location	Cytoplasm, perinuclear region. Cytoplasm. Note=Associated with the polyribosomes, probably via the 60S subunit.
Tissue Location	Expressed in testis and to a lesser degree in brain, ovary and placenta. Found in most tissues at low levels

Background

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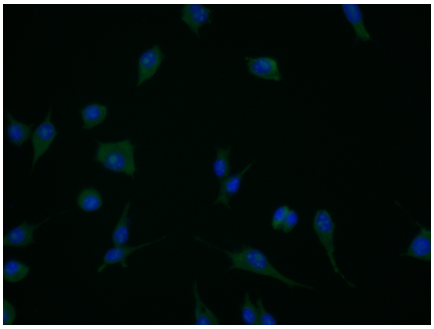
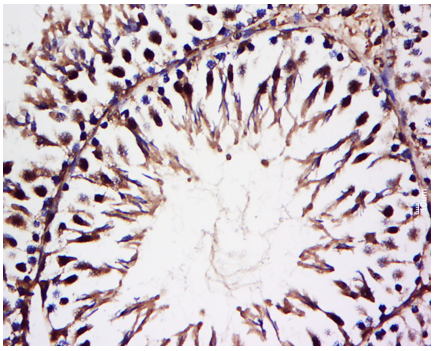
Images

SH-SY5Y cell; 4% Paraformaldehyde-fixed; Triton X-100 at



room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (HECT E3 ubiquitin ligase) polyclonal Antibody, Unconjugated (AP55999) 1:100, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Tissue/cell: Rat testis tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-CEB1 Polyclonal Antibody, Unconjugated(AP55999) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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