

Anti-TMEM173 Picoband Antibody

Catalog # ABO12201

Product Information

Application	WB, IHC-P
Primary Accession	Q86WV6
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Stimulator of interferon genes protein (TMEM173) detection. Tested with WB, IHC-P in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	340061
Other Names	Stimulator of interferon genes protein, hSTING, Endoplasmic reticulum interferon stimulator, ERIS, Mediator of IRF3 activation, hMITA, Transmembrane protein 173, TMEM173
Calculated MW	42193
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat Western blot, 0.1-0.5 µg/ml, Human
Subcellular Localization	Endoplasmic reticulum membrane; Multi-pass membrane protein. Mitochondrion outer membrane; Multi-pass membrane protein. Cell membrane ; Multi-pass membrane protein . Cytoplasm, perinuclear region. Cytoplasm. In response to double-stranded DNA stimulation, relocates to perinuclear region, where the kinase TBK1 is recruited.
Tissue Specificity	Ubiquitously expressed. Expressed in skin endothelial cells, alveolar type 2 pneumocytes, bronchial epithelium and alveolar macrophages. .
Source	Eukaryota
Protein Name	Stimulator of interferon genes protein
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human TMEM173 (284-316aa RLEQAKLFCRTLEDILADAPESQNNCRLIAYQE), different from the related mouse sequence by five amino acids.

Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins
Storage	At -20° C for one year. After r° Constitution, at 4° C for one month. It° Can also be aliquotted and stored frozen at -20° C for a longer time.Avoid repeated freezing and thawing.

Protein Information

Name	STING1 (HGNC:27962)
Function	Facilitator of innate immune signaling that acts as a sensor of cytosolic DNA from bacteria and viruses and promotes the production of type I interferon (IFN-alpha and IFN-beta) (PubMed:18724357, PubMed:18818105, PubMed:19433799, PubMed:19776740, PubMed:23027953, PubMed:23747010, PubMed:23910378, PubMed:27801882, PubMed:29973723, PubMed:30842659, PubMed:35045565, PubMed:35388221, PubMed:36808561, PubMed:37832545, PubMed:25704810, PubMed:39255680). Innate immune response is triggered in response to non-CpG double-stranded DNA from viruses and bacteria delivered to the cytoplasm (PubMed:26300263). Acts by binding cyclic dinucleotides: recognizes and binds cyclic di-GMP (c- di-GMP), a second messenger produced by bacteria, cyclic UMP-AMP (2',3'-cUAMP), and cyclic GMP-AMP (cGAMP), a messenger produced by CGAS in response to DNA virus in the cytosol (PubMed:21947006, PubMed:23258412, PubMed:23707065, PubMed:23722158, PubMed:23747010, PubMed:23910378, PubMed:26229117, PubMed:30842659, PubMed:35388221, PubMed:37379839). Upon binding to c-di-GMP, cUAMP or cGAMP, STING1 oligomerizes, translocates from the endoplasmic reticulum and is phosphorylated by TBK1 on the pLxIS motif, leading to recruitment and subsequent activation of the transcription factor IRF3 to induce expression of type I interferon and exert a potent anti-viral state (PubMed:22394562, PubMed:25636800, PubMed:29973723, PubMed:30842653, PubMed:35045565, PubMed:35388221, PubMed:30643259). Exhibits 2',3' phosphodiester linkage-specific ligand recognition: can bind both 2'-3' linked cGAMP (2'-3'-cGAMP) and 3'-3' linked cGAMP but is preferentially activated by 2'-3' linked cGAMP (PubMed:23747010, PubMed:23910378, PubMed:26300263). The preference for 2'-3'-cGAMP, compared to other linkage isomers is probably due to the ligand itself, which adopts an organized free-ligand conformation that resembles the STING1-bound conformation and pays low energy costs in changing into the active conformation (PubMed:26150511). In addition to promote the production of type I interferons, plays a direct role in autophagy (PubMed:30568238, PubMed:30842662). Following cGAMP-binding, STING1 buds from the endoplasmic reticulum into COPII vesicles, which then form the endoplasmic reticulum-Golgi intermediate compartment (ERGIC) (PubMed:30842662, PubMed:41639454, PubMed:41639452). The ERGIC serves as the membrane source for WIPI2 recruitment and LC3 lipidation, leading to formation of autophagosomes that target cytosolic DNA or DNA viruses for degradation by the lysosome (PubMed:30842662). Promotes autophagy by acting as a proton channel that directs proton efflux from the Golgi to facilitate MAP1LC3B/LC3B lipidation (PubMed:37535724). The autophagy- and interferon-inducing activities can be uncoupled and autophagy induction is independent of TBK1 phosphorylation (PubMed:30568238, PubMed:30842662). Autophagy is also triggered upon infection by bacteria: following c-di-GMP-binding, which is produced by live Gram-positive bacteria, promotes reticulophagy (By similarity). May be involved in translocon function, the translocon possibly being able to influence the induction of type I interferons

(PubMed:[18724357](#)). May be involved in transduction of apoptotic signals via its association with the major histocompatibility complex class II (MHC-II) (By similarity). Involved in intercellular immune signaling. Cross-activated by 2',3'-cGAMP previously generated in virus-infected cells, triggers type I interferon signaling in macrophages and uninfected neighboring cells to propagate and amplify the antiviral immune response.

Cellular Location

Endoplasmic reticulum membrane; Multi-pass membrane protein {ECO:0000255, ECO:0000269 | PubMed:30842659, ECO:0000269 | PubMed:32690950}. Cytoplasm, perinuclear region. Endoplasmic reticulum-Golgi intermediate compartment membrane; Multi-pass membrane protein {ECO:0000255, ECO:0000269 | PubMed:32690950, ECO:0000269 | PubMed:41639452}. Golgi apparatus membrane; Multi-pass membrane protein. Cytoplasmic vesicle, autophagosome membrane; Multi-pass membrane protein. Mitochondrion outer membrane; Multi-pass membrane protein. Cell membrane {ECO:0000250 | UniProtKB:Q3TBT3}; Multi-pass membrane protein. Note=In response to double-stranded DNA stimulation, translocates from the endoplasmic reticulum through the endoplasmic reticulum-Golgi intermediate compartment and Golgi to post-Golgi vesicles, where the kinase TBK1 is recruited (PubMed:19433799, PubMed:29694889, PubMed:30842653, PubMed:30842659). Upon cGAMP-binding, translocates to the endoplasmic reticulum-Golgi intermediate compartment (ERGIC) in a process that is dependent on COPII vesicles; STING1-containing ERGIC serves as a membrane source for LC3 lipidation, which is a key step in autophagosome biogenesis (PubMed:30842662, PubMed:37832545). Translocation to the ERGIC compartment is also dependent on cholesterol and phosphoinositide, such as phosphatidylinositol 3,5-bisphosphate (PtdIns(3,5)P2), which directly bind STING1 at the interface between dimers and promote STING1 homooligomerization (PubMed:41639452, PubMed:41639454). Localizes in the lysosome membrane in a TMEM203-dependent manner (By similarity) {ECO:0000250 | UniProtKB:Q3TBT3, ECO:0000269 | PubMed:19433799, ECO:0000269 | PubMed:29694889, ECO:0000269 | PubMed:30842653, ECO:0000269 | PubMed:30842659, ECO:0000269 | PubMed:30842662, ECO:0000269 | PubMed:32690950, ECO:0000269 | PubMed:37832545, ECO:0000269 | PubMed:41639452, ECO:0000269 | PubMed:41639454}

Tissue Location

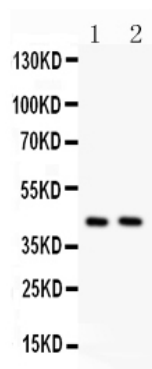
Ubiquitously expressed (PubMed:18724357, PubMed:18818105). Expressed in skin endothelial cells, alveolar type 2 pneumocytes, bronchial epithelium and alveolar macrophages (PubMed:25029335).

Background

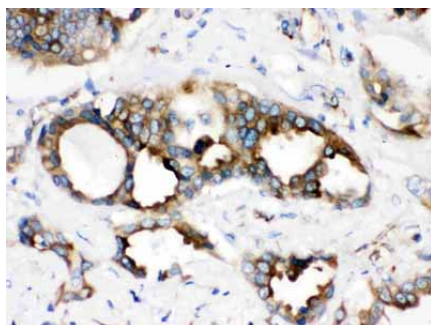
Transmembrane protein 173 is a protein that in humans is encoded by the TMEM173 gene. This gene encodes a five transmembrane protein that functions as a major regulator of the innate immune response to viral and bacterial infections. The encoded protein is a pattern recognition receptor that detects cytosolic nucleic acids and transmits signals that activate type I interferon responses. Also the encoded protein has been shown to play a role in apoptotic signaling by associating with type II major histocompatibility complex. Mutations in this gene are the cause of infantile-onset STING-associated vasculopathy. Alternate splicing results in multiple transcript variants.

Images

Anti- TMEM173 Picoband antibody, ABO12201, Western blottingAll lanes: Anti TMEM173 (ABO12201) at 0.5ug/mlLane 1: A549 Whole Cell Lysate at 40ugLane 2: HELA Whole Cell Lysate at 40ugPredicted bind size:



42KDObserved bind size: 42KD



Anti- TMEM173 Picoband antibody, ABO12201,
IHC(P)IHC(P): Human Lung Cancer Tissue

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