

## ARG43199 anti-TMEM173 / STING phospho (Ser366) antibody

Package: 50 µl  
Store at: -20°C

### Summary

Product Description	Rabbit Polyclonal antibody recognizes TMEM173 / STING phospho (Ser366)
Tested Reactivity	Hu, Ms
Tested Application	WB
Specificity	The antibody detects endogenous levels of TMEM173 / STING only when phosphorylated at Ser366.
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	TMEM173 / STING
Species	Human
Immunogen	Phosphospecific peptide around Ser366 of Human TMEM173 / STING.
Conjugation	Un-conjugated
Alternate Names	MPYS; hSTING; hMITA; Transmembrane protein 173; ERIS; STING; Stimulator of interferon genes protein; Mediator of IRF3 activation; SAVI; Endoplasmic reticulum interferon stimulator; NET23; MITA

### Application Instructions

Application table	Application	Dilution
	WB	1:500 - 1:2000
Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.	
Positive Control	MCF7	
Observed Size	~ 42 kDa	

### Properties

Form	Liquid
Purification	Affinity purification with phospho-specific peptide and the non-phospho specific antibodies were removed by chromatography using non-phosphopeptide.
Buffer	PBS (pH 7.4), 150 mM NaCl, 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note For laboratory research only, not for drug, diagnostic or other use.

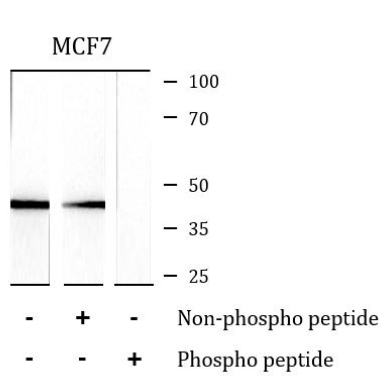
## Bioinformation

Gene Symbol	TMEM173
Gene Full Name	transmembrane protein 173
Background	<p>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. The encoded protein has also 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. [provided by RefSeq, Sep 2014]</p>
Function	<p>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:23910378, PubMed:23747010, PubMed:30842659). 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, 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:26229117, PubMed:23910378, PubMed:23747010, PubMed:30842659). Upon binding of c-di-GMP or cGAMP, TMEM173/STING 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:30842653). In addition to promote the production of type I interferons, plays a direct role in autophagy (PubMed:30568238, PubMed:30842662). Following cGAMP-binding, TMEM173/STING buds from the endoplasmic reticulum into COPII vesicles, which then form the endoplasmic reticulum-Golgi intermediate compartment (ERGIC) (PubMed:30842662). 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). 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). 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:26300263, PubMed:23910378, PubMed:23747010). 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 TMEM173/STING-bound conformation and pays low energy costs in changing into the active conformation (PubMed:26150511). 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).</p> <p>(Microbial infection) Antiviral activity is antagonized by oncoproteins, such as papillomavirus (HPV) protein E7 and adenovirus early E1A protein (PubMed:26405230). Such oncoproteins prevent the ability to sense cytosolic DNA (PubMed:26405230). [UniProt]</p>
Calculated Mw	42 kDa
PTM	<p>Phosphorylated on tyrosine residues upon MHC-II aggregation (By similarity). Phosphorylated on Ser-358 by TBK1, leading to activation and production of IFN-beta.</p> <p>Ubiquitinated (PubMed:19285439, PubMed:19433799, PubMed:21074459, PubMed:25254379). 'Lys-63'-linked ubiquitination mediated by TRIM56 at Lys-150 promotes homodimerization and recruitment of the antiviral kinase TBK1 and subsequent production of IFN-beta (PubMed:21074459). 'Lys-48'-linked polyubiquitination at Lys-150 occurring after viral infection is mediated by RNF5 and leads to proteasomal degradation (PubMed:19285439). 'Lys-11'-linked polyubiquitination at Lys-150 by RNF26 leads to stabilize TMEM173/STING: it protects TMEM173/STING from RNF5-mediated 'Lys-48'-linked polyubiquitination (PubMed:25254379). [UniProt]</p>
Cellular 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. Note=In response to double-stranded DNA stimulation, relocalizes to perinuclear region, where the kinase TBK1 is recruited. [UniProt]

## Images

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ARG43199 anti-TMEM173 / STING phospho (Ser366) antibody WB image

Western blot: MCF7 cell lysate stained with ARG43199 anti-TMEM173 / STING phospho (Ser366) antibody. Peptide treatments: 1) No treatment; 2) Non-phospho peptide and 3) Phospho peptide treatments.