abcam

ab189430

Anti-STING antibody - C-terminal

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human STING1 aa 300-350 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link Q86WV6
Purification technique	Affinity purification Immunogen
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Expected

Species	Human

Dilution info	Use at an assay dependent concentration.
Notes	-

IHC-P

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/10 - 1/50
Notes	ab171870 - Rabbit polyclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information STING1

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). 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, whichs 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). 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. (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).

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The stimulator of interferon genes (STING) also known as TMEM173 or MPYS is a critical transmembrane protein with a molecular weight of approximately 42 kDa. It is primarily expressed in the endoplasmic reticulum of various cell types including immune cells where it plays a central role in sensing cytosolic DNA. STING binds to cyclic dinucleotides produced by the enzyme cGAS upon recognition of aberrant DNA in the cytosol. This binding initiates activation and translocation of STING to the Golgi apparatus facilitating further signaling events.
Biological function summary	STING serves as a pivotal regulator in the innate immune response to viral and bacterial infections. It operates by forming a signaling complex with kinases and other effector proteins which subsequently leads to the activation of transcription factors such as IRF3 and NF-kB. These transcription factors then induce the expression of type I interferons and other cytokines important for mounting an effective antiviral response. The STING pathway therefore enhances the immune system's ability to detect and respond to pathogens.
Pathways	The activity of STING is integral to the cGAS-STING pathway a significant cytosolic DNA-sensing pathway involved in innate immunity. Upon activation STING interacts with TBK1 a kinase that further phosphorylates IRF3 promoting its nuclear translocation and activation. Beyond this STING also intersects with pathways involving autophagy a cellular process necessary for clearing pathogens and damaged cellular components. Through these pathways STING critically contributes to upholding cellular homeostasis and immune defense.
Associated diseases and disorders	The dysregulation of STING is linked to autoinflammatory diseases and certain cancers. Abnormal STING activation can lead to chronic inflammation a feature observed in diseases such as STING-associated vasculopathy with onset in infancy (SAVI). STING's role in cancer is also notable where its ability to activate immune cells can be harnessed in immunotherapy yet its chronic activation may promote tumorigenesis. In cancer STING often interacts with proteins like K-Ras influencing tumor growth and response to therapies.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

We do not recommend this combination. It is not covered by our product promise.

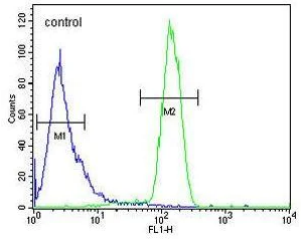
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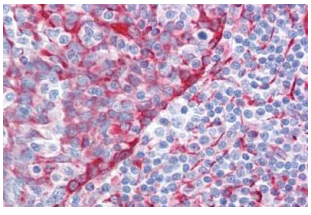
3 product images



Flow Cytometry (Intracellular) - Anti-STING antibody - C-terminal (ab189430)

STING Flow Cytometry (Intracellular) staining using rabbit Anti-STING antibody

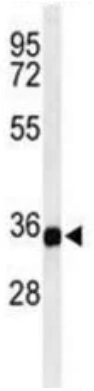
Intracellular flow cytometric analysis of HeLa cells labeling TMEM173 with ab189430 at 1/10 dilution (right histogram) compared to negative control cells (left histogram) using FITC-conjugated goat-anti-rabbit secondary antibodies.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-STING antibody - C-terminal (ab189430)

STING Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-STING antibody

Immunohistochemical analysis of formalin-fixed, paraffin-embedded Human tonsil tissue labeling TMEM173 with ab189430 at 5 µg/ml.



Western blot - Anti-STING antibody - C-terminal (ab189430)

All lanes:
Western blot - Anti-STING antibody - C-terminal (ab189430) at 1/1000 dilution

All lanes:
Mouse spleen tissue lysate at 35 µg

Predicted band size: 42 kDa

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