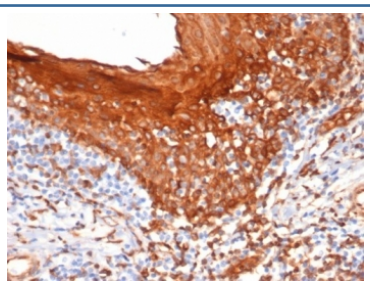
STING1 Antibody Clone STING1/7441 / MITA / ERIS / TMEM173 [clone STING1/7441] (V5092)

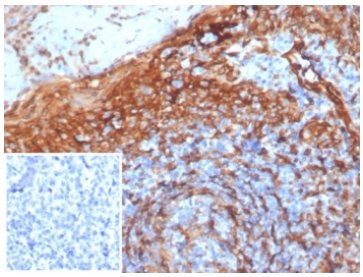
Catalog No.	Formulation	Size
V5092-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V5092-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V5092SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

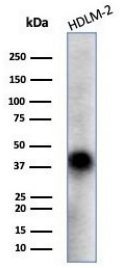
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2c, kappa
Clone Name	STING1/7441
Purity	Protein A/G affinity
UniProt	Q86WV6
Localization	Cytoplasm
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This STING1 antibody is available for research use only.



IHC staining of FFPE human tonsil tissue with STING1 Antibody Clone STING1/7441. HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



STING1 Antibody Clone STING1/7441 immunohistochemistry analysis of human tissue. IHC staining of formalin-fixed, paraffin-embedded human tonsil using STING1 Antibody Clone STING1/7441 demonstrates HRP-DAB brown cytoplasmic staining in numerous lymphoid immune cells within tonsillar tissue, consistent with expression of Stimulator of interferon genes protein / STING1 (TMEM173) in antigen-presenting cell populations. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min followed by cooling prior to antibody incubation. The inset shows PBS used in place of the primary antibody as a negative control.



Western blot testing of human HDLM-2 cell lysate with STING1 antibody (clone STING1/7441). Predicted molecular weight ~42 kDa.

Description

Stimulator of interferon genes protein (STING1), encoded by the TMEM173 gene, is an intracellular signaling adaptor that plays an essential role in innate immune detection of cytosolic DNA. STING1 is an endoplasmic reticulum-associated transmembrane protein that coordinates activation of interferon signaling pathways following recognition of foreign or mislocalized DNA. The STING1 Antibody Clone STING1/7441 recognizes STING1, a key signaling molecule within the cGAS-STING pathway responsible for initiating antiviral and inflammatory responses triggered by cytoplasmic DNA.

STING1 is also widely known by several alternative names including MITA (Mediator of IRF3 activation), ERIS (endoplasmic reticulum interferon stimulator), and STING. These names reflect the protein's function as a central adaptor that connects cytosolic DNA sensing to transcriptional activation of interferon genes. When cyclic GMP-AMP synthase (cGAS) detects double-stranded DNA in the cytoplasm, it produces the cyclic dinucleotide cGAMP. Binding of cGAMP to STING1 activates the protein and induces its translocation from the endoplasmic reticulum to perinuclear vesicular compartments. During this trafficking process STING recruits and activates TBK1 kinase, which subsequently phosphorylates the transcription factor IRF3. Activated IRF3 then enters the nucleus to promote transcription of interferon-stimulated genes and inflammatory mediators.

STING1 is expressed in numerous immune and tissue cell types including macrophages, dendritic cells, epithelial cells, endothelial cells, and lymphoid tissues. Through activation of interferon signaling cascades, STING functions as an important component of host defense against viral infection and intracellular microbial pathogens. In addition to its role in pathogen detection, STING signaling contributes to immune surveillance mechanisms that recognize cellular stress, mitochondrial DNA release, or genomic instability.

Because of its central position in innate immune signaling, STING1 has become a major focus of research in cancer immunotherapy, antiviral immunity, and inflammatory disease biology. Excessive activation of the STING pathway has been associated with interferon-mediated autoinflammatory disorders, while controlled activation of STING signaling is being explored as a strategy to stimulate anti-tumor immune responses. Mouse monoclonal antibodies such as STING1 Antibody Clone STING1/7441 enable investigation of STING1 expression and distribution in studies of innate immune signaling pathways and interferon-driven immune regulation.

Application Notes

Optimal dilution of the STING1 Antibody Clone STING1/7441 should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 190-290) from the human protein was used as the immunogen for the STING1 antibody.

Storage

Aliquot the STING1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

STING antibody, TMEM173 antibody, MITA antibody, ERIS antibody, Stimulator of interferon genes protein antibody