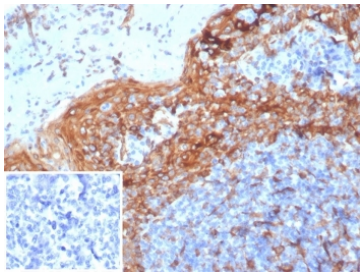
TMEM173 Antibody Clone STING1/7432 / STING1 [clone STING1/7432] (V9758)

Catalog No.	Formulation	Size
V9758-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V9758-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V9758SAF-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 IgG
Clone Name	STING1/7432
Purity	Protein A/G affinity
UniProt	Q86WV6
Localization	Cytoplasm
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml
Limitations	This TMEM173 antibody is available for research use only.



IHC TMEM173 Antibody Clone STING1/7432 in human tonsil. Immunohistochemistry analysis of TMEM173 Antibody Clone STING1/7432 in formalin-fixed paraffin-embedded human tonsil tissue. The mouse monoclonal antibody (clone STING1/7432) shows cytoplasmic HRP-DAB brown staining in immune cells within tonsillar lymphoid tissue, consistent with the intracellular localization of Stimulator of interferon genes (STING1 / TMEM173), an adaptor protein involved in cGAS-STING innate immune signaling. Lymphoid and stromal cells within the tonsil display positive staining patterns. The inset represents the negative control in which PBS was used instead of the primary antibody to evaluate secondary antibody background staining. Antigen retrieval was performed by boiling tissue sections in pH 9 Tris-EDTA buffer (10mM Tris, 1mM EDTA) for 20 minutes followed by cooling prior to antibody incubation.

Description

Stimulator of interferon genes (STING1) is an endoplasmic reticulum-associated adaptor protein encoded by the TMEM173 gene that functions as a central regulator of innate immune signaling pathways triggered by cytosolic DNA. Stimulator of interferon genes (TMEM173) participates in host defense by activating type I interferon responses and inflammatory cytokine production following detection of pathogenic or abnormal intracellular DNA. The TMEM173 Antibody Clone STING1/7432 recognizes this key immune signaling protein that is widely studied in antiviral immunity, inflammation, and tumor immunology. STING1 is broadly expressed in immune-related cell types including dendritic cells, macrophages, monocytes, and lymphoid tissues where cytosolic DNA sensing pathways play critical roles in immune surveillance.

TMEM173 antibody reagents are commonly used to investigate the biology of the STING protein, also referred to in the literature as STING, MITA (Mediator of IRF3 activation), and ERIS (Endoplasmic reticulum interferon stimulator). Upon detection of cytosolic double-stranded DNA, cyclic GMP-AMP synthase (cGAS) produces cyclic GMP-AMP, which directly binds STING1 and induces conformational activation of the protein. This activation promotes translocation of STING1 from the endoplasmic reticulum to the Golgi apparatus and perinuclear vesicles, where it recruits TANK-binding kinase 1 (TBK1). TBK1 then phosphorylates interferon regulatory factor 3 (IRF3), enabling IRF3 to translocate to the nucleus and initiate transcription of interferon-stimulated genes and type I interferons that coordinate antiviral responses.

The cGAS-STING signaling pathway is one of the most important cytosolic DNA sensing mechanisms in mammalian cells. Dysregulation of STING1 signaling has been associated with autoimmune diseases, chronic inflammatory disorders, and cancer-related immune responses. Activating mutations in the TMEM173 gene are responsible for autoinflammatory disorders such as STING-associated vasculopathy with onset in infancy (SAVI), highlighting the importance of controlled STING pathway activation in immune homeostasis. Conversely, pharmacologic activation of STING signaling is actively being investigated in cancer immunotherapy strategies aimed at enhancing anti-tumor immune responses.

Because of its central role in innate immune detection and interferon signaling, a TMEM173 antibody is frequently used in studies of DNA sensing pathways, antiviral immunity, and inflammatory signaling networks. Monitoring TMEM173 expression and localization provides insight into activation of the cGAS-STING pathway and downstream interferon signaling events. During activation, STING1 redistributes within intracellular membrane compartments as part of dynamic signaling complexes that coordinate immune responses to pathogenic DNA and cellular stress signals.

Application Notes

Optimal dilution of the TMEM173 Antibody Clone STING1/7432 antibody should be determined by the researcher.

Immunogen

A portion of amino acids 190-290 was used as the immunogen for the TMEM173 antibody.

Storage

Aliquot the TMEM173 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

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