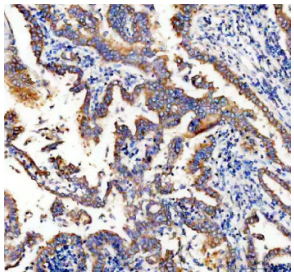
STING Antibody / TMEM173 (R32276)

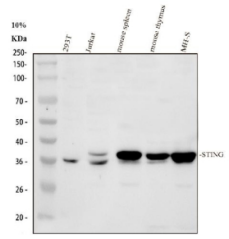
Catalog No.	Formulation	Size
R32276	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

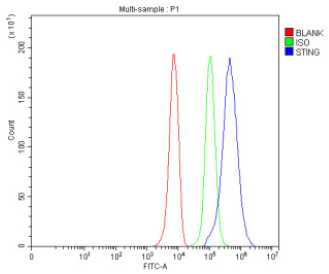
Availability	1-3 business days
Species Reactivity	Human, Mouse
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q86WV6
Localization	Cytoplasmic, cell membrane
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This STING antibody is available for research use only.



IHC analysis of STING/TMEM173 Antibody. STING expression was examined in a paraffin-embedded section of human lung cancer tissue. Following heat-mediated antigen retrieval in EDTA buffer (pH 8.0), sections were blocked with goat serum and incubated with a rabbit anti-STING/TMEM173 antibody. Immunoreactivity was visualized using an HRP-based detection system with DAB chromogen. STING staining is observed predominantly in tumor epithelial cells with cytoplasmic and membranous localization patterns, while surrounding stromal areas show lower background signal.



Western blot analysis of STING/TMEM173 Antibody. Proteins were resolved by 10% SDS-PAGE and transferred to a nitrocellulose membrane prior to immunodetection. Lane 1: human 293T whole cell lysates; Lane 2: human Jurkat whole cell lysates; Lane 3: mouse spleen tissue lysates; Lane 4: mouse thymus tissue lysates; Lane 5: mouse MH-S whole cell lysates. A prominent band corresponding to TMEM173 was detected at approximately 35 kDa across multiple samples. Although the predicted molecular weight of STING is approximately 42 kDa based on amino acid sequence, STING is well documented to migrate at a lower apparent molecular weight on SDS-PAGE, likely due to its multi-pass transmembrane architecture, hydrophobic regions, and detergent-dependent electrophoretic behavior. Lower apparent migration and subtle band heterogeneity have been reported for STING in both human and mouse tissues, and the observed banding pattern is consistent with published studies of endogenous TMEM173 expression.



Flow cytometry analysis of fixed human HepG2 cells with STING antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= STING antibody.

Description

STING Antibody targets stimulator of interferon genes, encoded by the TMEM173 gene. Stimulator of interferon genes is an endoplasmic reticulum-associated adaptor protein that functions as a central regulator of innate immune signaling in response to cytosolic DNA. STING plays a critical role in host defense by linking intracellular DNA sensing to downstream inflammatory and antiviral responses, thereby coordinating early immune activation against pathogens and aberrant cellular processes.

Functionally, stimulator of interferon genes is activated following binding of cyclic dinucleotides, including cyclic GMP-AMP generated by cyclic GMP-AMP synthase after detection of double stranded DNA in the cytoplasm. Ligand binding induces conformational changes in STING that promote its translocation from the endoplasmic reticulum to the Golgi apparatus and perinuclear vesicles. This trafficking step is essential for recruitment and activation of downstream signaling components such as TBK1, leading to phosphorylation of IRF3 and induction of type I interferons and interferon-stimulated genes. A STING Antibody supports studies focused on innate immune activation, antiviral signaling, and DNA sensing pathways.

STING is expressed in a broad range of immune and non-immune cell types, including macrophages, dendritic cells, endothelial cells, fibroblasts, and epithelial cells. Expression levels and signaling competence can vary depending on cell type, developmental stage, and inflammatory context. Under basal conditions, STING is predominantly localized to the cytoplasmic face of the endoplasmic reticulum membrane, where it remains inactive until pathway stimulation occurs. Upon activation, dynamic changes in subcellular localization reflect the tightly regulated nature of STING signaling and its dependence on intracellular trafficking for proper signal propagation.

At the molecular level, stimulator of interferon genes contains multiple transmembrane domains that anchor it within the endoplasmic reticulum, along with a cytosolic C-terminal domain responsible for ligand binding and interaction with downstream signaling proteins. These structural features enable STING to function as a scaffold that integrates DNA sensing with kinase activation and transcriptional regulation. Regulation of STING activity involves not only ligand binding but also post-translational modifications and protein-protein interactions that fine-tune signaling intensity and duration.

From a disease relevance perspective, dysregulated STING signaling has been implicated in a wide range of pathological

conditions. Gain-of-function mutations in TMEM173 are associated with autoinflammatory syndromes characterized by excessive interferon production and chronic inflammation. Conversely, impaired STING signaling can compromise antiviral immunity and reduce immune surveillance in cancer. STING pathway activation has therefore become an area of significant interest in oncology and immunology, with therapeutic strategies aimed at modulating STING activity to enhance antitumor immunity or suppress pathological inflammation. These disease associations underscore the importance of tightly controlled stimulator of interferon genes signaling in maintaining immune homeostasis.

STING Antibody reagents enable investigation of innate immune signaling mechanisms, intracellular trafficking events, and inflammatory pathway regulation in both physiological and disease-associated contexts. Detection of STING expression and localization supports research into host defense, immune dysregulation, and therapeutic targeting of DNA sensing pathways, with NSJ Bioreagents providing antibodies intended for research use.

Application Notes

Optimal dilution of the STING antibody should be determined by the researcher.

Immunogen

Amino acids RLEQAKLFCRTLEDILADAPESQNNCRLIAYQE of human STING were used as the immunogen for the STING antibody.

Storage

After reconstitution, the STING antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.