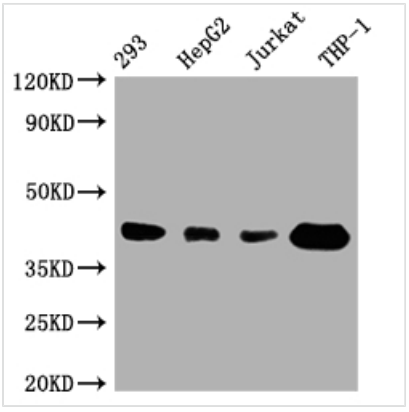
TMEM173 Recombinant Monoclonal Antibody

Product Code	CSB-RA843206A0HU
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	Q86WV6
Immunogen	A synthesized peptide derived from human TMEM173
Species Reactivity	Human
Tested Applications	ELISA, WB; Recommended dilution: WB:1:500-1:5000
Relevance	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). Innate immune response is triggered in response to non-CpG double-stranded DNA from viruses and bacteria delivered to the cytoplasm. Acts by recognizing and binding cyclic di-GMP (c-di-GMP), a second messenger produced by bacteria, and cyclic GMP-AMP (cGAMP), a messenger produced in response to DNA virus in the cytosol: upon binding of c-di-GMP or cGAMP, autoinhibition is alleviated and TMEM173/STING is able to activate both NF-kappa-B and IRF3 transcription pathways to induce expression of type I interferon and exert a potent anti-viral state. May be involved in translocon function, the translocon possibly being able to influence the induction of type I interferons. May be involved in transduction of apoptotic signals via its association with the major histocompatibility complex class II (MHC-II). Mediates death signaling via activation of the extracellular signal-regulated kinase (ERK) pathway. Essential for the induction of IFN-beta in response to human herpes simplex virus 1 (HHV-1) infection. Exhibits 2',3' phosphodiester linkage-specific ligand recognition. Can bind both 2'-3' linked cGAMP and 3'-3' linked cGAMP but is preferentially activated by 2'-3' linked cGAMP (PubMed:26300263).
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling; Cancer; Immunology; Signal transduction
Gene Names	TMEM173
Clone No.	7C7
Image	



Western Blot
Positive WB detected in: 293 whole cell lysate, HepG2 whole cell lysate, Jurkat whole cell lysate, THP-1 whole cell lysate
All lanes: TMEM173 antibody at 1:1000
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 43 kDa
Observed band size: 43 kDa

Description

B cells were inducibly generated by a synthesized peptide obtained from human TMEM173, and subsequently fused with myeloma cells to create hybridomas. The variable light (VL) and variable heavy (VH) domains of TMEM173 antibody-producing hybridomas' cDNA were sequenced and used as a model for recombinant vector construction. The next step is to transfect the TMEM173 monoclonal antibody gene-containing vector into cells for culturing. The TMEM173 recombinant monoclonal antibody was then obtained and purified from the cell culture supernatant through affinity chromatography. The purified antibody was tested for specificity in ELISA and WB applications and was found to detect only human TMEM173 protein.

The TMEM173 protein, also known as STING, plays an important role in the innate immune system by activating the production of interferons and other cytokines in response to the detection of microbial DNA in the cytosol of infected cells. The TMEM173 pathway is important for the detection of viral infections and the clearance of intracellular bacteria, and dysregulation of this pathway has been implicated in various autoimmune and inflammatory diseases.