

Mouse anti-Human MB21D1 Monoclonal Antibody | anti-MB21D1 antibody

MB21D1 Antibody

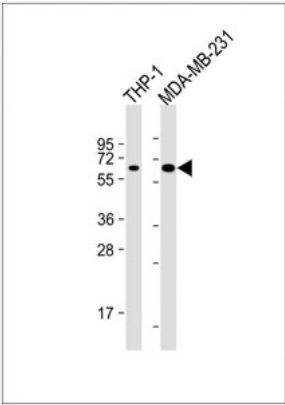
CATALOG # AAA28800	HOST Mouse	REACTIVITY Human	APPLICATIONS Western Blot, ELISA
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PRODUCT SYNONYMS

MB21D1; Monoclonal Antibody; MB21D1 Antibody; Cyclic GMP-AMP synthase; cGAMP synthase; cGAS; h-cGAS; 2.7.7.86; Mab-21 domain-containing protein 1; C6orf150; anti-MB21D1 antibody

PRODUCT SPECIFICATIONS

Host	Mouse
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG1,k
Clone Number	1697CT136.65.30
Specificity	This MB21D1 antibody is generated from a mouse immunized with a KLH conjugated synthetic peptide between 1-185 amino acids from human MB21D1.
Form/Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Sequence Length	522
Applicable Applications for anti-MB21D1 antibody	WB (Western Blot), ELISA
Application Notes	WB:~1:4000
Cellular Location	Cell membrane; Peripheral membrane protein. Cytoplasm, cytosol. Nucleus. Note=In resting conditions, localizes at the cell membrane as a peripheral membrane protein by binding to phosphatidylinositol 4,5-bisphosphate (PtdIns(4,5)P2) (PubMed:30827685). Localization at the cell membrane is required to limit the recognition of self-DNA (PubMed:30827685). Following detection of double-stranded DNA (dsDNA), released from the cell membrane into the cytosol in order to signal (PubMed:30827685). Upon transfection with dsDNA forms punctate structures that co-localize with DNA and Beclin-1 (BECN1) (PubMed:26048138). Phosphorylation at Tyr-215 promotes cytosolic retention; translocates into the nucleus following dephosphorylation (PubMed:30356214).
Tissue Location	Expressed in the monocytic cell line THP1.
Preparation and Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.



WB (Western Blot)
All lanes : Anti-MB21D1 Antibody at 1:4000 dilution
Lane 1: THP-1 whole cell lysate
Lane 2: MDA-MB-231 whole cell lysate
Lysates/proteins at 20 ug per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 59kDa
Blocking/Dilution buffer: 5% NFDM/TBST.

ADDITIONAL INFORMATION

Related Product Information for anti-MB21D1 antibody	Nucleotidyltransferase that catalyzes the formation of cyclic GMP-AMP (cGAMP) from ATP and GTP. Catalysis involves both the formation of a 2',5' phosphodiester linkage at the GpA step and the formation of a 3',5' phosphodiester linkage at the ApG step, producing c[G(2',5')pA(3',5')p]. Has antiviral activity by acting as a key cytosolic DNA sensor, the presence of double- stranded DNA (dsDNA) in the cytoplasm being a danger signal that triggers the immune responses. Binds cytosolic DNA directly, leading to activation and synthesis of cGAMP, a second messenger that binds to and activates TMEM173/STING, thereby triggering type-I interferon production. Function: Nucleotidyltransferase that catalyzes the formation of cyclic GMP-AMP (cGAMP) fromATP and GTP and plays a key role in innateimmunity. Catalysis involves both the formation of a2',5' phosphodiester linkage at the GpA stepand the formation of a 3',5' phosphodiester linkage at the ApG step, producingc[G(2',5')pA(3',5')p]. Acts as a key cytosolic DNA sensor, the presence of double-stranded DNA (dsDNA) in the cytoplasm being a danger signal that triggers the immune responses. Binds cytosolic DNA directly, leading to activation and synthesis of cGAMP, a second messenger that binds to and activates TMEM173/STING, thereby triggering type-I interferon production. Preferentially recognizes and binds curved long DNAs. In contrast to other mammals, human CGAS displays species-specific mechanisms of DNA recognition and produces less cyclic GMP-AMP (cGAMP), allowing a morefine-tuned response to pathogens. Has antiviral activity by sensing the presence ofdsDNA from DNA viruses in the cytoplasm. Also acts as an innate immune sensor of infection by retroviruses, such as HIV-1, by detecting the presence of reverse-transcribed DNA in the cytosol. Detection of retroviral reverse-transcribed DNA in the cytosol may be indirect and be mediated via interaction with PQBP1, which directly binds reverse-transcribed retroviral DNA. Also detects the presence of DNA from bacteria, such as M.tuberculosis. cGAMP can be transferred from producing cells to neighboring cells through gap junctions,leading to promote TMEM173/STING activation and convey immune response to connecting cells. cGAMP can also be transferred between cells by virtue of packaging within viral particles contributing to IFN-induction in newly infected cells in a cGAS-independent but TMEM173/STING-dependent manner. In addition to antiviral activity, also involved in the response to cellular stresses, such assenescence, DNA damage or genome instability.Acts as a regulator of cellular senescence by binding to cytosolic chromatin fragments that are present in senescent cells, leading to trigger type-I interferon production via TMEM173/STING and promote cellular senescence (By similarity). Also involved in the inflammatory response to genome instability and double-stranded DNA breaks: acts by localizing to micronuclei arising from genome instability. Micronuclei, which as frequently found in cancer cells, consist of chromatin surrounded by its own nuclear membrane: following breakdown of the micronuclear envelope, a process associated with chromothripsis, CGAS binds self-DNA exposed to the cytosol,leading to cGAMP synthesis and subsequent activation of TMEM173/STING and type-I interferon production. Acts as a suppressor of DNA repair in response toDNA damage: translocates to the nucleusfollowing dephosphorylation at Tyr-215 andinhibits homologous recombination repair byinteracting with PARP1, the CGAS-PARP1interaction leading to impede the formation of the PARP1-TIMELESS complex.
Product Categories/Family for anti-MB21D1 antibody	Crown Antibodies; Primary Antibodies; Cell Biology

References	Sun L.,et al.Science 339:786-791 (2013). Ota T.,et al.Nat. Genet. 36:40-45 (2004). Mungall A.J.,et al.Nature 425:805-811 (2003). Choudhary C.,et al.Science 325:834-840 (2009). Olsen J.V.,et al.Sci. Signal. 3:RA3-RA3 (2010).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	115511030
NCBI GeneID	115004
NCBI Accession #	NP_612450.2
NCBI GenBank Nucleotide #	NM_138441.2
UniProt Accession #	Q8N884; Q14CV6; Q32NC9; Q5SWL0; Q5SWL1; Q96E45; L0L2J9
Molecular Weight	58814
NCBI Official Full Name	cyclic GMP-AMP synthase
NCBI Official Synonym Full Names	Mab-21 domain containing 1
NCBI Official Symbol	MB21D1
NCBI Official Synonym Symbols	cGAS; h-cGAS; C6orf150
NCBI Protein Information	cyclic GMP-AMP synthase
UniProt Protein Name	Cyclic GMP-AMP synthase
UniProt Gene Name	MB21D1
UniProt Synonym Gene Names	C6orf150; cGAMP synthase; cGAS; h-cGAS
UniProt Entry Name	CGAS_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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 Online datasheet: <https://stage.aaabiotech.com/monoclonal/mb21d1-antibody-clone-1697ct136-65-30-western-blot-elisa/28800>