

ZBP1 antibody - middle region

Rabbit Polyclonal Antibody

Catalog # AI11021

Product Information

Application	WB
Primary Accession	Q9H171
Other Accession	NM_030776 , NP_110403
Reactivity	Human
Predicted	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	46343

Additional Information

Gene ID	81030
Alias Symbol	DAI, DLM1, DLM-1, C20orf183
Other Names	Z-DNA-binding protein 1, Tumor stroma and activated macrophage protein DLM-1, ZBP1, C20orf183, DLM1
Format	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
Reconstitution & Storage	Add 100 ul of distilled water. Final anti-ZBP1 antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
Precautions	ZBP1 antibody - middle region is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ZBP1 {ECO:0000303 PubMed:16876127, ECO:0000312 HGNC:HGNC:16176}
Function	Key innate sensor that recognizes and binds Z-RNA structures, which are produced by a number of viruses, such as herpesvirus, orthomyxovirus or flavivirus, and triggers different forms of cell death (PubMed: 32200799). ZBP1 acts as an essential mediator of pyroptosis, necroptosis and apoptosis (PANoptosis), an integral part of host defense against pathogens, by activating RIPK3, caspase-8 (CASP8), and the NLRP3 inflammasome (By similarity). Key activator of necroptosis, a programmed cell death process in response to death- inducing TNF family members, via its ability to bind Z-RNA: once activated upon Z-RNA-binding, ZBP1 interacts and stimulates RIPK3 kinase, which phosphorylates and activates MLKL, triggering execution of

programmed necrosis (By similarity). In addition to TNF-induced necroptosis, necroptosis can also take place in the nucleus in response to orthomyxoviruses infection: ZBP1 recognizes and binds Z-RNA structures that are produced in infected nuclei by orthomyxoviruses, such as the influenza A virus (IAV), leading to ZBP1 activation, RIPK3 stimulation and subsequent MLKL phosphorylation, triggering disruption of the nuclear envelope and leakage of cellular DNA into the cytosol (PubMed:[32200799](#)). ZBP1-dependent cell death in response to IAV infection promotes interleukin-1 alpha (IL1A) induction in an NLRP3- inflammasome-independent manner: IL1A expression is required for the optimal interleukin-1 beta (IL1B) production, and together, these cytokines promote infiltration of inflammatory neutrophils to the lung, leading to the formation of neutrophil extracellular traps (By similarity). In addition to its direct role in driving necroptosis via its ability to sense Z-RNAs, also involved in PANoptosis triggered in response to bacterial infection: component of the AIM2 PANoptosome complex, a multiprotein complex that triggers PANoptosis (By similarity). Also acts as the apical sensor of fungal infection responsible for activating PANoptosis (By similarity). Involved in CASP8-mediated cell death via its interaction with RIPK1 but independently of its ability to sense Z-RNAs (By similarity). In some cell types, also able to restrict viral replication by promoting cell death-independent responses (By similarity). In response to Zika virus infection in neurons, promotes a cell death-independent pathway that restricts viral replication: together with RIPK3, promotes a death- independent transcriptional program that modifies the cellular metabolism via up-regulation expression of the enzyme ACOD1/IRG1 and production of the metabolite itaconate (By similarity). Itaconate inhibits the activity of succinate dehydrogenase, generating a metabolic state in neurons that suppresses replication of viral genomes (By similarity).

Cellular Location

Cytoplasm. Nucleus. Note=Mainly cytoplasmic (PubMed:16876127, PubMed:16990255). Accumulates in the nucleus in response to influenza A virus (IAV) infection: senses IAV defective viral genomes RNA in the nucleus (By similarity). {ECO:0000250|UniProtKB:Q9QY24, ECO:0000269|PubMed:16876127, ECO:0000269|PubMed:16990255}

Tissue Location

Highly expressed in lymphatic tissues including lymph node, leukocytes, tonsil, bone marrow and spleen (PubMed:11842111). Expressed to a lesser extent in thymus, lung and liver (PubMed:11842111).

Images



WB Suggested Anti-ZBP1 Antibody Titration: 5.0 µg/ml
Positive Control: HepG2 Whole Cell

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.