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IFI16 Recombinant Mouse mAb

Catalog # AP98640

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q16666
Other Accession	Q16666
Reactivity	Human
Host	Mouse
Clonality	Recombinant
Calculated MW	88256
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human IFI16
Isotype	IgG1
Purity	affinity purified by Protein A
Buffer	PBS, Glycerol, BSA.
SIMILARITY	Contains 1 DAPIN domain. Contains 1 HIN-200 domain.
SUBUNIT	Forms homooligomers; isoform 2 can self-associate or associate with isoform 1 or isoform 3. Interacts with TMEM173, AIM2, PYCARD and CASP1. Interacts with BRCA1, TP53, E2F1, RB1 and SP1.
Post-translational modifications	Lysine acetylation in the multipartite nuclear localization signal (NLS) regulates the subcellular location. In vitro can be acetylated by p300/EP300 coupled to cytoplasmic localization.Phosphorylated on Ser and Thr.Isoform 3 seems to show a minor degree of complex carbohydrate addition.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Interferon (IFN) Inducible 16 (IFI16) protein belongs to a family of HIN 200 human and mouse proteins. IFI16 is a nuclear protein comtaining regulatory domains such as DNA binding domain, transcriptional regulatory domain and DAPIN/PAAD domain. IFI16 has three isotypes A, B, and C (85-95 kDa), which arise as a result of mRNA alternative splicing. All are phosphorylated on serine and threonine residues and can homo and heterodimerize. Expression is restricted to the nuclei of hematopoietic cells, fibroblasts and epithelial cells. IFI16 expression in hematopoietic cells of myeloid lineage is tightly regulated and highly induced in the differentiation and proliferation of the cell. Due to its localization in the nucleus, regulation of protein expression, and ability to bind DNA, it is assumed that IFI16 has a role in transcription regulation of cell differentiation. In addition, it was found that IFI16 can act as a transcriptional repressor and is involved in regulation and activation of p53 in cancer cells.

Additional Information

Gene ID	3428
Other Names	IFNGIP1; PYHIN2; IF16_HUMAN; IFI16; Ifi-16; Interferon-inducible myeloid differentiation transcriptional activator; interferon gamma inducible protein

	16
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	IFI16 {ECO:0000303|PubMed:1526658, ECO:0000312|HGNC:HGNC:5395}
Function	Binds double-stranded DNA. Binds preferentially to supercoiled DNA and cruciform DNA structures. Seems to be involved in transcriptional regulation. May function as a transcriptional repressor. Could have a role in the regulation of hematopoietic differentiation through activation of unknown target genes. Controls cellular proliferation by modulating the functions of cell cycle regulatory factors including p53/TP53 and the retinoblastoma protein. May be involved in TP53-mediated transcriptional activation by enhancing TP53 sequence-specific DNA binding and modulating TP53 phosphorylation status. Seems to be involved in energy-level-dependent activation of the ATM/ AMPK/TP53 pathway coupled to regulation of autophagy. May be involved in regulation of TP53-mediated cell death also involving BRCA1. May be involved in the senescence of prostate epithelial cells. Involved in innate immune response by recognizing viral dsDNA in the cytosol and probably in the nucleus. After binding to viral DNA in the cytoplasm recruits TMEM173/STING and mediates the induction of IFN-beta. Has anti-inflammatory activity and inhibits the activation of the AIM2 inflammasome, probably via association with AIM2. Proposed to bind viral DNA in the nucleus, such as of Kaposi's sarcoma-associated herpesvirus, and to induce the formation of nuclear caspase-1-activating inflammasome formation via association with PYCARD. Inhibits replication of herpesviruses such as human cytomegalovirus (HCMV) probably by interfering with promoter recruitment of members of the Sp1 family of transcription factors. Necessary to activate the IRF3 signaling cascade during human herpes simplex virus 1 (HHV-1) infection and promotes the assembly of heterochromatin on herpesviral DNA and inhibition of viral immediate- early gene expression and replication. Involved in the MTA1-mediated epigenetic regulation of ESR1 expression in breast cancer.
Cellular Location	Nucleus. Cytoplasm. Note=Cellular distribution is dependent on the acetylation status of the multipartite nuclear localization signal (NLS); NLS acetylation promotes cytoplasmic localization Localizes in the nucleus during human herpes simplex virus 1 (HHV-1) infection.
Tissue Location	Expressed in peripheral blood leukocytes, fibroblasts and lymphoid cells. Present in myeloid precursors (CD34+) and throughout monocyte development, but its expression is down- regulated in erythroid and polymorphonuclear precursor cells. Present in prostate, ovary and breast (at protein level)

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