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GBP5 Rabbit pAb

Catalog # AP99661

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q96PP8
Other Accession	Q96PP8
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	66617
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human GBP5/Guanylate binding protein 5
Epitope Specificity	221-320/586
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the GBP family.
SUBUNIT	Homotetramer when interacting with NLRP3 (By similarity). Homodimerizes upon GTP-binding, dimerization is required for the second hydrolysis step from GDP to GMP. Can also heterodimerize with other members of the family. Homotetramer when interacting with NLRP3.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	GBP5 is a 586 amino acid protein that localizes to the cytoplasmic side of the cell membrane. Belonging to the interferon (IFN)-inducible guanylate-binding protein (GBP) family, GBP5 may be involved in the inflammatory response or with cell proliferation and is suggested to have possible cancer-related functions. The gene encoding GBP5 maps to human chromosome 1, which spans 260 million base pairs, contains over 3,000 genes and comprises nearly 8% of the human genome. Chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease, Gaucher disease, schizophrenia and Usher syndrome. Aberrations in chromosome 1 are found in a variety of cancers, including head and neck cancer, malignant melanoma and multiple myeloma.

Additional Information

Gene ID	115362
Other Names	GBP-5; 5330409J06Rik; Gbp5a; GBP5_HUMAN; GBP5; GBP-TA antigen; GTP-binding protein 5 (GBP-5); Guanine nucleotide-binding protein 5; 3.6.5.-; GBP5_MOUSE; GTP-binding protein 5 (GBP-5 | MuGBP-5); guanylate binding protein 5

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	GBP5 {ECO:0000303|PubMed:20180847, ECO:0000312|HGNC:HGNC:19895}
Function	Interferon (IFN)-inducible GTPase that plays important roles in innate immunity against a diverse range of bacterial, viral and protozoan pathogens (By similarity). Hydrolyzes GTP, but in contrast to other family members, does not produce GMP (PubMed:20180847). Following infection, recruited to the pathogen-containing vacuoles or vacuole- escaped bacteria and acts as a positive regulator of inflammasome assembly by promoting the release of inflammasome ligands from bacteria (By similarity). Acts by promoting lysis of pathogen-containing vacuoles, releasing pathogens into the cytosol (By similarity). Following pathogen release in the cytosol, promotes recruitment of proteins that mediate bacterial cytolysis: this liberates ligands that are detected by inflammasomes, such as lipopolysaccharide (LPS) that activates the non-canonical CASP4/CASP11 inflammasome or double- stranded DNA (dsDNA) that activates the AIM2 inflammasome (By similarity). As an activator of NLRP3 inflammasome assembly: promotes selective NLRP3 inflammasome assembly in response to microbial and soluble, but not crystalline, agents (PubMed:22461501). Independently of its GTPase activity, acts as an inhibitor of various viruses infectivity, such as HIV-1, Zika and influenza A viruses, by inhibiting FURIN-mediated maturation of viral envelope proteins (PubMed:26996307, PubMed:31091448).
Cellular Location	Cytoplasmic vesicle membrane {ECO:0000250|UniProtKB:Q8CFB4}; Lipid-anchor, GPI-like-anchor. Golgi apparatus membrane; Lipid-anchor. Cytoplasm
Tissue Location	Expressed in peripheral blood monocytes (at protein level).

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