

G3BP1 Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP13785b

Specification

G3BP1 Antibody (C-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	Q13283
Other Accession	P97855 , Q32LC7 , NP_938405.1 , NP_005745.1
Reactivity	Human
Predicted	Bovine, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	52164
Antigen Region	401-430

G3BP1 Antibody (C-term) - Additional Information

Gene ID 10146

Other Names

Ras GTPase-activating protein-binding protein 1, G3BP-1, ATP-dependent DNA helicase VIII, hDH VIII, GAP SH3 domain-binding protein 1, G3BP1, G3BP

Target/Specificity

This G3BP1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 401-430 amino acids from the C-terminal region of human G3BP1.

Dilution

WB~~1:1000
IHC-P~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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.

Precautions

G3BP1 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

G3BP1 Antibody (C-term) - Protein Information

Name G3BP1 {ECO:0000303|PubMed:23279204, ECO:0000312|HGNC:HGNC:30292}

Function Protein involved in various processes, such as stress granule formation and innate immunity (PubMed:[12642610](#), PubMed:[20180778](#), PubMed:[23279204](#), PubMed:[30510222](#), PubMed:[30804210](#)). Plays an essential role in stress granule formation (PubMed:[12642610](#), PubMed:[20180778](#), PubMed:[23279204](#), PubMed:[32302570](#), PubMed:[32302571](#), PubMed:[32302572](#), PubMed:[34739333](#), PubMed:[35977029](#), PubMed:[36183834](#), PubMed:[36279435](#), PubMed:[36692217](#), PubMed:[37379838](#)). Stress granules are membraneless compartments that store mRNAs and proteins, such as stalled translation pre-initiation complexes, in response to stress (PubMed:[12642610](#), PubMed:[20180778](#), PubMed:[23279204](#), PubMed:[27022092](#), PubMed:[32302570](#), PubMed:[32302571](#), PubMed:[32302572](#), PubMed:[36279435](#), PubMed:[37379838](#)). Promotes formation of stress granules phase-separated membraneless compartment by undergoing liquid-liquid phase separation (LLPS) upon unfolded RNA-binding: functions as a molecular switch that triggers RNA-dependent LLPS in response to a rise in intracellular free RNA concentrations (PubMed:[32302570](#), PubMed:[32302571](#), PubMed:[32302572](#), PubMed:[34739333](#), PubMed:[36279435](#), PubMed:[36692217](#)). Also acts as an ATP- and magnesium-dependent helicase: unwinds DNA/DNA, RNA/DNA, and RNA/RNA substrates with comparable efficiency (PubMed:[9889278](#)). Acts unidirectionally by moving in the 5' to 3' direction along the bound single-stranded DNA (PubMed:[9889278](#)). Unwinds preferentially partial DNA and RNA duplexes having a 17 bp annealed portion and either a hanging 3' tail or hanging tails at both 5'- and 3'-ends (PubMed:[9889278](#)). Plays an essential role in innate immunity by promoting CGAS and RIGI activity (PubMed:[30510222](#), PubMed:[30804210](#)). Participates in the DNA-triggered cGAS/STING pathway by promoting the DNA binding and activation of CGAS (PubMed:[30510222](#)). Triggers the condensation of cGAS, a process probably linked to the formation of membrane-less organelles (PubMed:[34779554](#)). Enhances also RIGI-induced type I interferon production probably by helping RIGI at sensing pathogenic RNA (PubMed:[30804210](#)). May also act as a phosphorylation- dependent sequence-specific endoribonuclease in vitro: Cleaves exclusively between cytosine and adenine and cleaves MYC mRNA preferentially at the 3'-UTR (PubMed:[11604510](#)).

Cellular Location

Cytoplasm, cytosol. Perikaryon {ECO:0000250|UniProtKB:P97855}. Cytoplasm, Stress granule. Nucleus Note=Cytoplasmic in proliferating cells (PubMed:[11604510](#)). Cytosolic and partially nuclear in resting cells (PubMed:[11604510](#)). Recruited to stress granules in response to arsenite treatment (PubMed:[12642610](#), PubMed:[20180778](#)). The unphosphorylated form is recruited to stress granules (PubMed:[12642610](#)). HRAS signaling contributes to this process by regulating G3BP dephosphorylation (PubMed:[12642610](#))

Tissue Location

Ubiquitous..

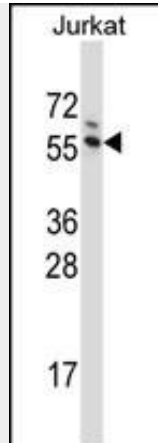
G3BP1 Antibody (C-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

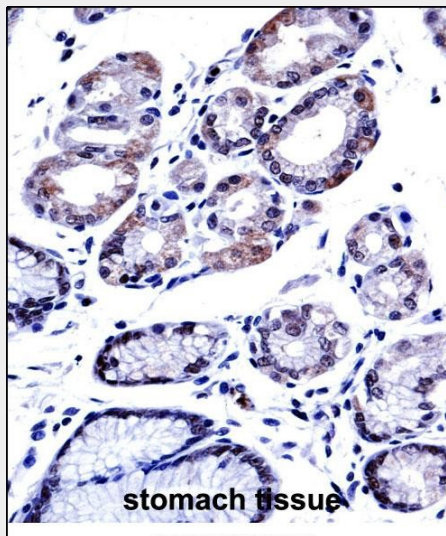
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

G3BP1 Antibody (C-term) - Images





G3BP1 Antibody (C-term) (Cat. #AP13785b) western blot analysis in Jurkat cell line lysates (35ug/lane). This demonstrates the G3BP1 antibody detected the G3BP1 protein (arrow).



G3BP1 Antibody (C-term) (AP13785b) immunohistochemistry analysis in formalin fixed and paraffin embedded human stomach tissue followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of G3BP1 Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

G3BP1 Antibody (C-term) - Background

This gene encodes one of the DNA-unwinding enzymes which prefers partially unwound 3'-tailed substrates and can also unwind partial RNA/DNA and RNA/RNA duplexes in an ATP-dependent fashion. This enzyme is a member of the heterogeneous nuclear RNA-binding proteins and is also an element of the Ras signal transduction pathway. It binds specifically to the Ras-GTPase-activating protein by associating with its SH3 domain. Several alternatively spliced transcript variants of this gene have been described, but the full-length nature of some of these variants has not been determined.

G3BP1 Antibody (C-term) - References

Gao, X., et al. FEBS Lett. 584(16):3525-3532(2010)
Ortega, A.D., et al. J. Cell. Sci. 123 (PT 16), 2685-2696 (2010) :

Hinton, S.D., et al. *Biochem. J.* 427(3):349-357(2010)
Shim, J.H., et al. *Cancer Prev Res (Phila)* 3(5):670-679(2010)
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