

Anti-G3BP Rabbit Monoclonal Antibody

Catalog # ABO15705

Product Information

Application	WB, IHC, IF, ICC, IP, FC
Primary Accession	Q13283
Host	Rabbit
Isotype	IgG
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Liquid
Description	Anti-G3BP Rabbit Monoclonal Antibody . Tested in WB, IHC, ICC/IF, IP, Flow Cytometry applications. This antibody reacts with Human, Mouse, Rat.

Additional Information

Gene ID	10146
Other Names	Ras GTPase-activating protein-binding protein 1, G3BP-1, 3.6.4.12, 3.6.4.13, ATP-dependent DNA helicase VIII, hDH VIII, GAP SH3 domain-binding protein 1, G3BP1 {ECO:0000303 PubMed:23279204, ECO:0000312 HGNC:HGNC:30292}
Calculated MW	52164
Application Details	WB 1:500-1:2000 IHC 1:50-1:200 ICC/IF 1:50-1:200 IP 1:20 FC 1:50
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: 22G81
Immunogen	A synthesized peptide derived from human G3BP
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	G3BP1 {ECO:0000303 PubMed:23279204,
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Function

Protein involved in various processes, such as stress granule formation and innate immunity (PubMed:[37672657](#), PubMed:[20180778](#), PubMed:[23279204](#), PubMed:[30510222](#), PubMed:[30804210](#)). Plays an essential role in stress granule formation (PubMed:[37672657](#), 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:[37672657](#), 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](#)). Also enhances 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

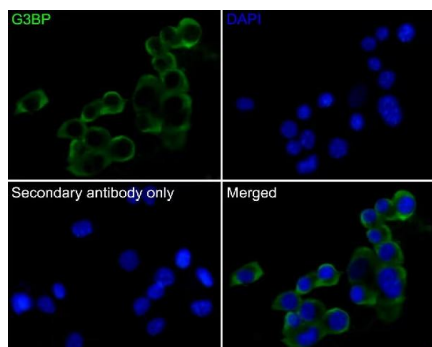
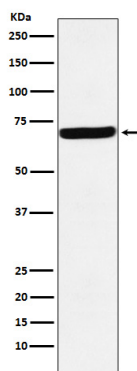
Cytoplasm, cytosol. Perikaryon {ECO:0000250 | UniProtKB:P97855}. Cytoplasm, Stress granule. Nucleus Note=Cytoplasmic in proliferating cells (PubMed:[11604510](#)). Cytosolic and partially nuclear in resting cells (PubMed:[11604510](#)). Recruited to stress granules in response to arsenite treatment (PubMed:[37672657](#), PubMed:[20180778](#)). The unphosphorylated form is recruited to stress granules (PubMed:[37672657](#)). HRAS signaling contributes to this process by regulating G3BP dephosphorylation (PubMed:[37672657](#))

Tissue Location

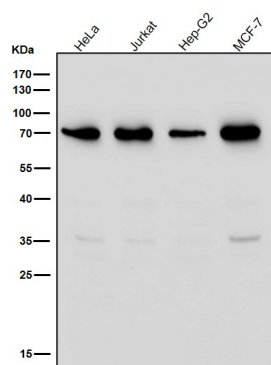
Ubiquitous..

Images

Western blot analysis of G3BP expression in Hela cell lysate.



Immunocytochemistry analysis of N2A cells, using G3BP antibody.



All lanes use the Antibody at 1:2W dilution for 1 hour at room temperature.

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