

**G3BP Antibody**  
Rabbit mAb  
Catalog # AP92285

## Specification

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### G3BP Antibody - Product Information

Application	WB, IHC, FC, ICC, IP
Primary Accession	<a href="#">O13283</a>
Reactivity	Rat
Clonality	Monoclonal
<b>Other Names</b>	
G3BP; G3bp1; hDH VIII;	
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	52164 Da

### G3BP Antibody - Additional Information

Purification	<b>Affinity-chromatography</b>
Immunogen	<b>A synthesized peptide derived from human G3BP</b>
Description	<b>May be a regulated effector of stress granule assembly. Phosphorylation-dependent sequence-specific endoribonuclease in vitro. Cleaves exclusively between cytosine and adenine and cleaves MYC mRNA preferentially at the 3'-UTR.</b>
Storage Condition and Buffer	<b>Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.</b>

### G3BP Antibody - 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](http://www.uniprot.org/citations/12642610), PubMed: [20180778](http://www.uniprot.org/citations/20180778), PubMed: [23279204](http://www.uniprot.org/citations/23279204), PubMed: [30510222](http://www.uniprot.org/citations/30510222), PubMed: [30804210](http://www.uniprot.org/citations/30804210)). Plays an essential role in stress granule formation (PubMed: [12642610](http://www.uniprot.org/citations/12642610), PubMed: [20180778](http://www.uniprot.org/citations/20180778), PubMed: [20180778](http://www.uniprot.org/citations/20180778)).

<http://www.uniprot.org/citations/23279204> target="\_blank">23279204</a>, PubMed:<a href="http://www.uniprot.org/citations/32302570" target="\_blank">32302570</a>, PubMed:<a href="http://www.uniprot.org/citations/32302571" target="\_blank">32302571</a>, PubMed:<a href="http://www.uniprot.org/citations/32302572" target="\_blank">32302572</a>, PubMed:<a href="http://www.uniprot.org/citations/34739333" target="\_blank">34739333</a>, PubMed:<a href="http://www.uniprot.org/citations/35977029" target="\_blank">35977029</a>, PubMed:<a href="http://www.uniprot.org/citations/36183834" target="\_blank">36183834</a>, PubMed:<a href="http://www.uniprot.org/citations/36279435" target="\_blank">36279435</a>, PubMed:<a href="http://www.uniprot.org/citations/36692217" target="\_blank">36692217</a>, PubMed:<a href="http://www.uniprot.org/citations/37379838" target="\_blank">37379838</a>). Stress granules are membraneless compartments that store mRNAs and proteins, such as stalled translation pre-initiation complexes, in response to stress (PubMed:<a href="http://www.uniprot.org/citations/12642610" target="\_blank">12642610</a>, PubMed:<a href="http://www.uniprot.org/citations/20180778" target="\_blank">20180778</a>, PubMed:<a href="http://www.uniprot.org/citations/23279204" target="\_blank">23279204</a>, PubMed:<a href="http://www.uniprot.org/citations/27022092" target="\_blank">27022092</a>, PubMed:<a href="http://www.uniprot.org/citations/32302570" target="\_blank">32302570</a>, PubMed:<a href="http://www.uniprot.org/citations/32302571" target="\_blank">32302571</a>, PubMed:<a href="http://www.uniprot.org/citations/32302572" target="\_blank">32302572</a>, PubMed:<a href="http://www.uniprot.org/citations/36279435" target="\_blank">36279435</a>, PubMed:<a href="http://www.uniprot.org/citations/37379838" target="\_blank">37379838</a>). 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:<a href="http://www.uniprot.org/citations/32302570" target="\_blank">32302570</a>, PubMed:<a href="http://www.uniprot.org/citations/32302571" target="\_blank">32302571</a>, PubMed:<a href="http://www.uniprot.org/citations/32302572" target="\_blank">32302572</a>, PubMed:<a href="http://www.uniprot.org/citations/34739333" target="\_blank">34739333</a>, PubMed:<a href="http://www.uniprot.org/citations/36279435" target="\_blank">36279435</a>, PubMed:<a href="http://www.uniprot.org/citations/36692217" target="\_blank">36692217</a>). Also acts as an ATP- and magnesium-dependent helicase: unwinds DNA/DNA, RNA/DNA, and RNA/RNA substrates with comparable efficiency (PubMed:<a href="http://www.uniprot.org/citations/9889278" target="\_blank">9889278</a>). Acts unidirectionally by moving in the 5' to 3' direction along the bound single-stranded DNA (PubMed:<a href="http://www.uniprot.org/citations/9889278" target="\_blank">9889278</a>). 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:<a href="http://www.uniprot.org/citations/9889278" target="\_blank">9889278</a>). Plays an essential role in innate immunity by promoting CGAS and RIGI activity (PubMed:<a href="http://www.uniprot.org/citations/30510222" target="\_blank">30510222</a>, PubMed:<a href="http://www.uniprot.org/citations/30804210" target="\_blank">30804210</a>). Participates in the DNA-triggered cGAS/STING pathway by promoting the DNA binding and activation of CGAS (PubMed:<a href="http://www.uniprot.org/citations/30510222" target="\_blank">30510222</a>). Triggers the condensation of cGAS, a process probably linked to the formation of membrane-less organelles (PubMed:<a href="http://www.uniprot.org/citations/34779554" target="\_blank">34779554</a>). Enhances also RIGI-induced type I interferon production probably by helping RIGI at sensing pathogenic RNA (PubMed:<a href="http://www.uniprot.org/citations/30804210" target="\_blank">30804210</a>). 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:<a href="http://www.uniprot.org/citations/11604510" target="\_blank">11604510</a>).

### 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

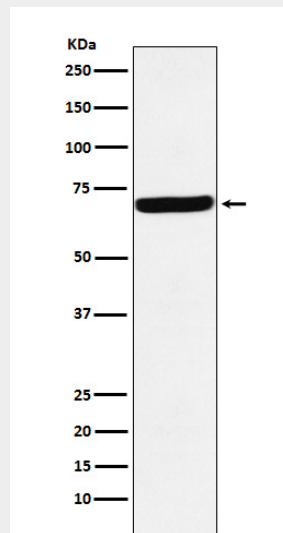
Ubiquitous..

#### G3BP Antibody - 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](#)

#### G3BP Antibody - Images



Western blot analysis of G3BP expression in HeLa cell lysate.