

## Anti-cGAS Antibody

Catalog Number: A31676-2

### About cGAS

cGAS (cyclic GMP-AMP synthase) is a cytosolic DNA sensor that serves to mount an immune response against the invasion of microbial pathogens such as viruses. cGAS normally resides as an inactive protein in the cell. Upon binding to DNA, cGAS undergoes a conformational change to an active state and produces the second messenger cyclic GMP-AMP (cGAMP) from ATP and GTP, which is subsequently detected by the cyclic-dinucleotide sensor STING, an ~40 kDa dimeric transmembrane protein at the endoplasmic reticulum (ER). cGAS not only is found in the cytosol but has a multifaceted cellular distribution that involves localization at the cell membrane and in the nucleus (PMID: 32424334). The calculated molecular weight of cGAS is 58 kDa. With post-translational modification, the MW of cGAS will be migrated to 70 kDa.

### Overview

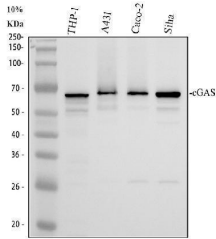
Product Name	Anti-cGAS Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-cGAS Antibody Picoband® catalog # A31676-2. Tested in WB, IHC, ICC/IF, ELISA. This antibody reacts with Human, Mouse. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	ELISA, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
Storage Instructions	Store at -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freeze-thaw cycles.
Host	Rabbit
Uniprot ID	Q8C6L5

### Technical Details

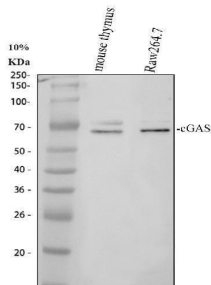
Immunogen	E.coli-derived human cGAS recombinant protein (Position: A352-F504).
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.

Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human, Mouse Immunohistochemistry (Paraffin-embedded Section), 2-5 ug/ml, Human Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human ELISA, 0.1-0.5 ug/ml, -

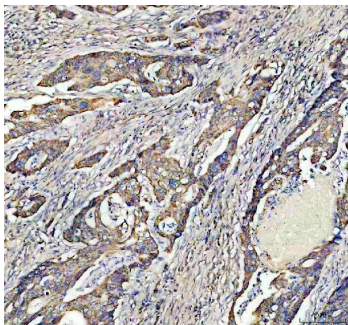
## Anti-cGAS Antibody (A31676-2) Images



Western blot analysis of cGAS using anti-cGAS antibody (A31676-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human THP-1 whole cell lysates, Lane 2: human A431 whole cell lysates, Lane 3: human CACO-2 whole cell lysates, Lane 4: human SiHa whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-cGAS antigen affinity purified polyclonal antibody (A31676-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for cGAS at approximately 59-65 kDa. The expected band size for cGAS is at 58 kDa.

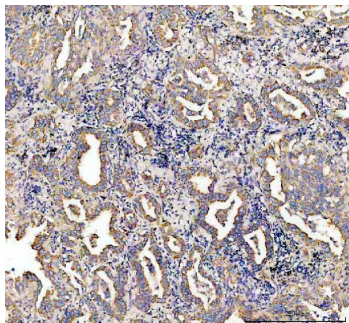


Western blot analysis of cGAS using anti-cGAS antibody (A31676-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: mouse thymus tissue lysates, Lane 2: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-cGAS antigen affinity purified polyclonal antibody (A31676-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for cGAS at approximately 59-65 kDa. The expected band size for cGAS is at 58 kDa.



IHC analysis of cGAS using anti-cGAS antibody (A31676-2). cGAS was detected in a paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-cGAS Antibody (A31676-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with

DAB as the chromogen.



IHC analysis of cGAS using anti-cGAS antibody (A31676-2). cGAS was detected in a paraffin-embedded section of human lung cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-cGAS Antibody (A31676-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

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### Anti-cGAS Antibody

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