

cGAS (D3O8O) Rabbit mAb

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Applications: W, W-S, IP	Reactivity: M	Sensitivity: Endogenous	MW (kDa): 62	Source/Isotype: Rabbit IgG	UniProt ID: #Q8C6L5	Entrez-Gene Id: 214763
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Product Usage Information**Application**

Western Blotting
Simple Western™
Immunoprecipitation

Dilution

1:1000
1:50 - 1:250
1:200

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

cGAS (D3O8O) Rabbit mAb recognizes endogenous levels of mouse cGAS protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala66 of mouse cGAS protein.

Background

Cyclic GMP-AMP synthase (cGAS, MB21D1) is an antiviral enzyme that produces the second messenger cyclic-GMP-AMP (cGAMP) in response to cytoplasmic DNA (1,2). The cGAS protein acts as a cytosolic DNA sensor that binds DNA and produces the cGAMP second messenger from ATP and GTP (1,2). cGAMP binds to and activates STING, a transmembrane adaptor protein that is a critical component of the cellular innate immune response to pathogenic cytoplasmic DNA (1-4). STING is ubiquitously expressed and found predominantly in the ER (3). Following activation, STING translocates with TBK1 to perinuclear endosomes (5). The TBK1 kinase phosphorylates and activates interferon regulatory factors (IRFs) and NF-κB, which leads to the induction of type I interferon and other immune response genes (3-5).

Background References

1. Sun, L. et al. (2013) *Science* 339, 786-91.
2. Wu, J. et al. (2013) *Science* 339, 826-30.
3. Ishikawa, H. and Barber, G.N. (2008) *Nature* 455, 674-8.
4. Zhong, B. et al. (2008) *Immunity* 29, 538-50.
5. Ishikawa, H. et al. (2009) *Nature* 461, 788-92.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **W-S:** Simple Western™ **IP:** Immunoprecipitation

Cross-Reactivity Key

M: Mouse

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