

#66546 Store at -20C

cGAS (D1D3G) Rabbit mAb (Biotinylated)



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB	H	Endogenous	62	Rabbit IgG	#Q8N884	115004

Product Usage Information	Application	Dilution
	Western Blotting	1:1000
Storage	Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA, and 50% glycerol. Store at -20°C. Do not aliquot the antibody.	
Specificity / Sensitivity	cGAS (D1D3G) Rabbit mAb (Biotinylated) recognizes endogenous levels of total cGAS protein.	
Source / Purification	Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala19 of human cGAS protein.	
Product Description	This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated cGAS (D1D3G) Rabbit mAb #15102.	

MW (kDa)

62

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 nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster **X:** Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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