

# PRODUCT INFORMATION



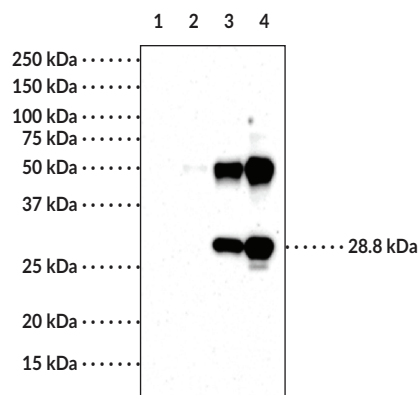
## STING M284 variant Monoclonal Antibody (Clone 8E7)

Item No. 25922

### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of protein G-purified monoclonal antibody.
<b>Synonyms:</b>	Endoplasmic Reticulum Interferon Stimulator, ERIS, Mediator of IRF3 Activation, MITA, MPYS, Stimulator of Interferon Genes, TMEM173, Transmembrane Protein 173
<b>Immunogen:</b>	Synthetic peptide from the internal region of human STING protein containing the R284M mutation
<b>Cross Reactivity:</b>	(-) Wild-type STING
<b>Species Reactivity:</b>	(+) Human
<b>Uniprot No.:</b>	Q86WV6
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
<b>Clone:</b>	8E7
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG1
<b>Applications:</b>	ELISA and Western blot (WB); the recommended starting dilution for ELISA and WB is 1:1,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



Lane 1: STING (139-379) Recombinant Protein 2 (µg) [negative control]  
Lane 2: STING R284M mutant (139-379) Recombinant Protein (1 ng)  
Lane 3: STING R284M mutant (139-379) Recombinant Protein (10 ng)  
Lane 4: STING R284M mutant (139-379) Recombinant Protein (100 ng)

WARNING  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM

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## Description

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Stimulator of interferon genes (STING) is a component of the innate immune response that binds to cyclic dinucleotides, which are bacterial second messengers, leading to activation of NF- $\kappa$ B and transcription of immunomodulatory genes, including type I interferon (IFN).<sup>1-4</sup> The R284M mutation in STING is associated with constitutive activation of downstream signaling. It increases the propensity of STING to dimerize and associate with the kinase TBK1 (Item No. 22817), enhancing the ability of STING to activate IRF3 (Item No. 22811) and NF- $\kappa$ B (Item No. 10009818) and induce a type I IFN response.<sup>5</sup> However, the R284M mutation occurs outside of the dimerization region between positions 153-177, so rather than a direct effect on dimerization, it is predicted to promote or inhibit binding of a cellular factor that stabilizes or impairs STING dimerization. Cayman's STING M284 variant Monoclonal Antibody preferentially detects overexpressed STING (R284M) versus wild-type STING by Western blot and ELISA.

## References

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1. Sun, L., Wu, J., Du, F., *et al.* Cyclic GMP-AMP synthase is a cytosolic DNA sensor that activates the type I interferon pathway. *Science* **339(6121)**, 786-791 (2013).
2. Wu, J., Sun, L., Chen, X., *et al.* Cyclic GMP-AMP is an endogenous second messenger in innate immune signaling by cytosolic DNA. *Science* **339(6121)**, 826-830 (2013).
3. Konno, H., Konno, K., and Barber, G.N. Cyclic dinucleotides trigger ULK1 (ATG1) phosphorylation of STING to prevent sustained innate immune signaling. *Cell* **155(3)**, 688-698 (2013).
4. Burdette, D.L., Monroe, K.M., Sotelo-Troha, K., *et al.* STING is a direct innate immune sensor of cyclic-di-GMP. *Nature* **478(7370)**, 515-518 (2011).
5. Tang, E.D. and Wang, C.-Y. Single amino acid change in STING leads to constitutive active signaling. *PLoS One* **10(3)**, e0120090 (2015).

CAYMAN CHEMICAL  
1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA  
PHONE: [800] 364-9897  
[734] 971-3335  
FAX: [734] 971-3640  
CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM