PRODUCT INFORMATION

STING R232 variant (N242A mutant; human, recombinant)

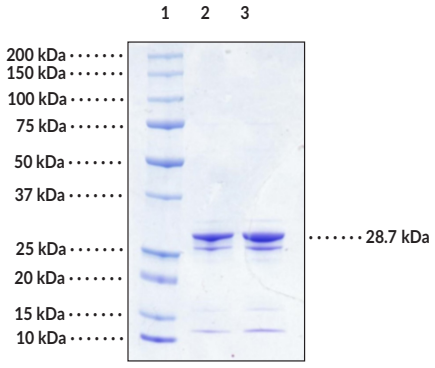
Item No. 40241

Overview and Properties

Synonyms:	Endoplasmic Reticulum Interferon Stimulator, ERIS, Mediator of IRF3 Activation, MITA, Mitochondrial Mediator of IRF3 Activation, MPYS, Stimulator of Interferon Genes, Stimulator of Interferon Response cGAMP Interactor 1, STING1, N-Terminal Methionine-Proline-Tyrosine-Serine Plasma Membrane Tetraspanner, TMEM173, Transmembrane Protein 173
Source:	Active recombinant human N-terminal His-tagged STING R232 variant (N242A mutant) expressed in *E. coli*
Amino Acids:	138-379
Uniprot No.:	Q86WV6
Molecular Weight:	28.7 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	***batch specific*** (≥80% estimated by SDS-PAGE)
Supplied in:	50 mM HEPES, pH 8.0, with 100 mM sodium chloride, and 10% glycerol
Protein Concentration:	***batch specific*** mg/ml

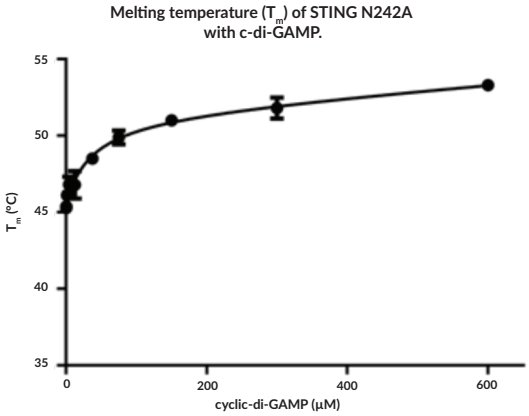
Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Images



Lane 1: MW Markers
Lane 2: STING R232 variant (N242A mutant) (2 µg)
Lane 3: STING R232 variant (N242A mutant) (4 µg)

SDS-PAGE Analysis of STING R232 variant (N242A mutant).
This protein has an apparent molecular weight of 28.7 kDa.



Binding activity of STING N242A variant. STING N242A variant (5 µg) was incubated with serial dilutions of 3'3' cGAMP (Item No. 17966) and SPYRO™ Orange dye. The detected increase in T_m indicates binding.

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Description

Stimulator of interferon genes (STING) is a component of the innate immune response that recognizes and binds to cyclic dinucleotides (CDNs), which either originate from bacteria or are signals of intracellular stress, leading to activation of NF-κB and transcription of immunomodulatory genes, including type I interferon (IFN).[1-5] The R232 variant is the most common variant in the human population, found at a frequency of 57.9% in the 1000 Genome Project.[6] STING is composed of four transmembrane domains at the N-terminus, a helix α1 domain involved in protein dimerization and ligand sensing, and a cytoplasmic C-terminal domain containing the cyclic dinucleotide-binding domain, as well as the TBK1/IRF1-binding site, TBK1 phosphorylation site, and IRF3 docking site.[7] Various mutations in STING either reduce or increase its activity or binding affinity.[6,8-10] The asparagine-to-alanine substitution at position 242 (N242A) reduces c-di-GMP and 2'3'-cGAMP binding to STING.[11,12] Cayman's STING R232 variant (N242A mutant; human, recombinant) protein can be used for ELISA, enzyme activity assay, and Western blot applications.

References

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2. 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).
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