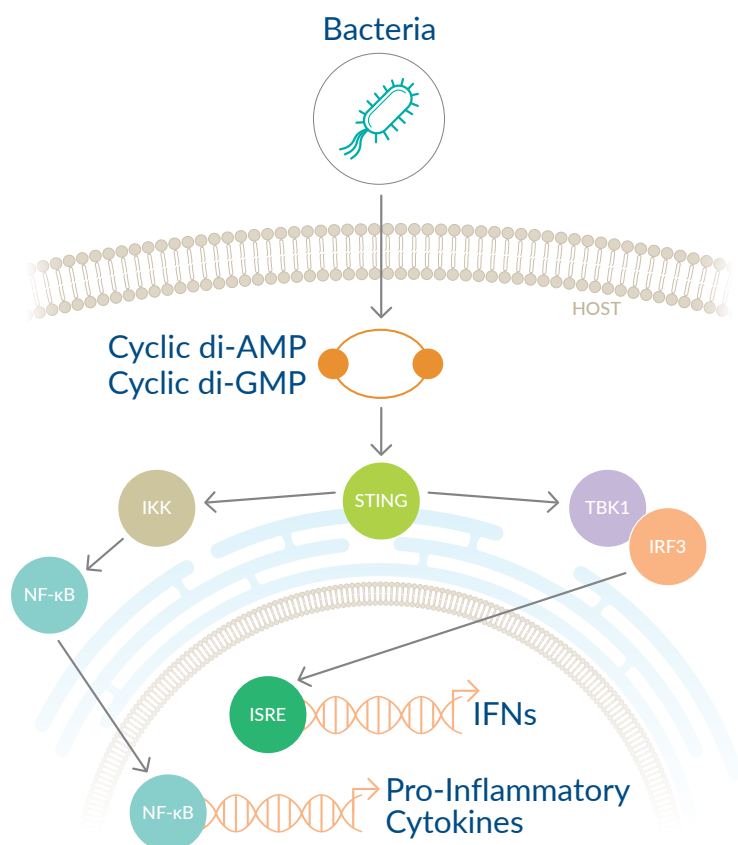


Bacterial Signaling & Sensing



Cyclic di-AMP and cyclic di-GMP are cyclic dinucleotide (CDN) second messengers generated by bacteria that control viability, motility, biofilm formation, virulence, and many additional processes. CDNs are direct ligands for STING (stimulator of interferon genes), a host cell defense factor in innate immunity. In response to sensing cytosolic nucleic acids, STING initiates a signaling pathway that induces the expression of IFNs and NF- κ B-dependent inflammatory cytokines. Cayman offers tools to quantify levels of CDNs in bacterial lysates as well as a bacterial CDNs, quorum-sensing signaling molecules, and bacterial fatty acid mixtures.



Bacterial CDNs are recognized by STING, leading to the production of type I IFNs and pro-inflammatory cytokines.

NEW! ELISAs to quantify bacterial CDNs detected by STING

Cyclic di-AMP ELISA Kit Item No. 501960

- Measure cyclic di-AMP in bacterial cell lysates
- LLOD is 20.7 pg/ml
- Assay 24 samples in triplicate or 36 in duplicate
- Uses a highly specific monoclonal antibody

Cyclic di-GMP ELISA Kit Item No. 501780

- Measure cyclic di-GMP in bacterial cell lysates
- LLOD is 5.3 pg/ml
- Assay 24 samples in triplicate or 36 in duplicate

GET RESULTS IN UNDER FOUR HOURS

Powered by **BIOLOG** - LIFE SCIENCE INSTITUTE -

Cyclic Dinucleotides (CDNs)

Item No.	Product Name	Description
17753	Cyclic di-AMP (sodium salt)	A bacteria-derived CDN; binds and activates mammalian STING
17144	Cyclic di-GMP (sodium salt)	A bacteria-derived CDN; binds and activates mammalian STING ($K_d = 1.21 \mu\text{M}$)
22485	Cyclic di-IMP (sodium salt)	A synthetic analog of cyclic di-AMP and cyclic di-GMP with adjuvant properties
17966	3'3'-cGAMP (sodium salt)	A bacteria-derived CDN with canonical 3'5'-phosphodiester bonds; binds and activates mammalian STING ($K_d = 1.04 \mu\text{M}$)

Proteins in the STING Pathway

Item No.	Product Name	Amino Acids	Purity
22809	CdnP (<i>Mycobacterium tuberculosis</i> strain ATCC 25618/H37Rv recombinant)	1-336 (full length)	≥70%
22810	cGAS (human recombinant)	2-522 (full length)	≥90%
25001	cGAS (161-522) (human recombinant)	161-522 (truncated)	≥90%
22816	STING R232 variant (human recombinant)	138-379 (truncated); R232 variant	≥80%
22815	STING H232 variant (human recombinant)	138-379 (truncated); R232H variant	≥70%
15139	STING H232 variant; SUMO-tagged (human recombinant)	155-341 (truncated); R232H variant	≥95%
23592	STING AQ variant (human recombinant)	138-379 (truncated); G230A, R293Q variant	≥80%
23594	STING M284 variant (human recombinant)	138-379 (truncated); R284M variant	≥80%
23593	STING R224 variant (human recombinant)	138-379 (truncated); K224R variant	≥70%
22817	TBK1 (human recombinant)	1-729 (full length)	≥50%
22811	IRF3 (human recombinant)	1-427 (full length)	≥85%
23590	IRF3 (S386A, S396A mutant; human recombinant)	1-427 (full length)	≥75%

cGAS, STING, IRF3, and IKK γ Antibodies

Item No.	Product Name	Immunogen	Host	Species Reactivity	Application(s)
23853	cGAS Monoclonal Antibody (Clone 5G10)	Full length human recombinant protein	Mouse	(+) Human	IF, IP, WB
17857	STING Polyclonal Antibody	Human recombinant STING	Rabbit	(+) Human	ELISA, IP, WB
24791	STING M284 variant Polyclonal Antibody	Synthetic peptide from the STING R284M variant	Rabbit	(+) Human	WB
17856	STING Monoclonal Antibody (Clone 2C8)	Human recombinant STING (AA 139-379)	Mouse	(+) Human	ELISA, IHC, WB
24937	IRF3 Polyclonal Antibody	Human recombinant IRF3	Rabbit	(+) Human (+) Green monkey	ELISA, IHC, WB
13931	IKK γ Monoclonal Antibody (Clone 72C627)	His-tagged, full length human IKK γ	Mouse	(+) Human (+) Mouse	WB

Quorum-Sensing Signaling Molecules

Cayman's diverse set of homoserine lactones can be used to study how bacterial populations use quorum sensing signaling to coordinate their behavior as cell population density increases.

Item No.	Product Name	Description
10007898	N-butyryl-L-Homoserine lactone	Has applications in regulation of virulence, infection prevention, and formation of biofilms
10011207	N-(β -ketocaproyl)-L-Homoserine lactone	Employed by marine bacterium <i>V. fischeri</i> and other bacteria in cell-cell communication
10011199	N-octanoyl-L-homoserine lactone	Has applications in infection prevention and regulation of virulence in general and in cystic fibrosis
10007895	N-3-oxo-dodecanoyl-L-Homoserine lactone	Activates NF- κ B and AP-2 to induce interleukin-8 production in human lung fibroblasts and epithelial cells

Common compounds listed, over 35 homoserine lactones and their internal standards available online

Bacterial Fatty Acid Methyl Ester Standards

Cayman's bacterial fatty acid mixtures simplify the detection of fatty acids of primarily microbial origin by GC-MS.

Item No.	Product Name	Supplied As	Contains
29372	Bacterial Fatty Acid Methyl Ester Mixture 1	1 ampule	A mixture of seven saturated branched and straight chain fatty acid methyl esters
29373	Bacterial Fatty Acid Methyl Ester Mixture 2	1 ampule	A mixture of 26 bacterial fatty acid methyl esters

View a complete list of Bacterial Signaling & Sensing products
at www.caymanchem.com

Distributed by:



In Italy: Vinci-Biochem Srl
Contatto diretto: tel. 0571 568 147
vb@vincibiochem.it
www.vincibiochem.it