

# Cyclic Dinucleotide ELISA Kits

Cyclic dinucleotides (CDNs) are ubiquitous cellular messengers that serve important signaling functions in all domains of life. To better understand CDN signaling systems in both eukaryotes and prokaryotes, Cayman, in conjunction with the expert nucleotide scientists at Biolog Life Science Institute, has developed competitive immunoassays for the specific detection of 2'3'-cGAMP, 3'3'-cGAMP, 3'2'-cGAMP, cyclic di-GMP, and cyclic di-AMP. These assay kits enable sensitive, accurate, reliable quantification of CDN levels in mammalian, bacterial, and insect samples.



Powered by



- Assay Features:**
- Highly sensitive detection in the low pM or pg/ml range
  - 96-Well microtiter plate format
  - Assay 24 samples in triplicate or 36 samples in duplicate
  - Colorimetric readout (Abs. = 450 nm)

## 2'3'-cGAMP ELISA Kit

Item No. 501700

- Measure 2'3'-cGAMP in mammalian cell lysates, plasma, serum, and tissue samples
  - Assay Range:** 9 pM-148.3 nM (6.1 pg/ml-100 ng/ml)
  - Mid-point (50% B/B<sub>0</sub>):** 1,346 pM (907.7 pg/ml)
  - Sensitivity (80% B/B<sub>0</sub>):** 126.5 pM (85.3 pg/ml)
  - LLOD:** 14.2 pM (9.6 pg/ml)
- Run overnight or incubate for just 2 hours without compromising sensitivity
- Validated in THP-1 cell lysates

## 3'2'-cGAMP ELISA Kit

Item No. 502340

New

- Measure 3'2'-cGAMP in fruit fly homogenates and bacterial lysates
  - Assay Range:** 7.8-1,000 pM (5.3-674.4 pg/ml)
  - Mid-point (50% B/B<sub>0</sub>):** 72 pM (48.6 pg/ml)
  - Sensitivity (80% B/B<sub>0</sub>):** 15 pM (10.1 pg/ml)
  - LLOD:** 4.0 pM (2.7 pg/ml)
- Uses a highly specific polyclonal antiserum
- Rapid assay; get results in under 3 hours
- Validated in *Drosophila* homogenates and *E. coli* cell lysates

## Cyclic di-GMP ELISA Kit

Item No. 501780

- Measure cyclic di-GMP in bacterial cell lysates
  - Assay Range:** 6.7-14,480 pM (4.6-10,000 pg/ml)
  - Mid-point (50% B/B<sub>0</sub>):** 357.1 pM (246.6 pg/ml)
  - Sensitivity (80% B/B<sub>0</sub>):** 55.5 pM (38.3 pg/ml)
  - LLOD:** 7.7 pM (5.3 pg/ml)
- Uses a high-affinity polyclonal antiserum
- Rapid assay; get results in under 4 hours
- Validated in *E. coli* cell lysates

## Cyclic di-AMP ELISA Kit

Item No. 501960

- Measure cyclic di-AMP in bacterial cell lysates
  - Assay Range:** 23.7-3,038 pM (15.6-2,000 pg/ml)
  - Mid-point (50% B/B<sub>0</sub>):** 273.7 pM (180.2 pg/ml)
  - Sensitivity (80% B/B<sub>0</sub>):** 99.5 pM (65.5 pg/ml)
  - LLOD:** 31.4 pM (20.7 pg/ml)
- Uses a highly specific monoclonal antibody
- Rapid assay; get results in under 4 hours
- Validated in *E. coli* cell lysates

## 3'3'-cGAMP ELISA Kit

Item No. 502130

- Measure 3'3'-cGAMP in bacterial and mammalian cell lysates and cell supernatants

**Assay Range:** 78-10,000 pM (52.6-6,744 pg/ml)

**Mid-point (50% B/B<sub>0</sub>):** 818 pM (552 pg/ml)

**Sensitivity (80% B/B<sub>0</sub>):** 210 pM (142 pg/ml)

**LLOD:** 26 pM (17.5 pg/ml)

- Uses a highly specific monoclonal antibody
- Rapid assay; get results in under 3 hours
- Independently validated by LC-MS/MS

## Quantification of Cyclic Dinucleotides During Growth Phase in Three Bacterial Species Using ELISAs

Learn how Cayman's ELISA kits were used to measure and compare the levels of cyclic di-GMP, cyclic di-AMP, and 3'3'-cGAMP in bacterial lysates and supernatants.



Download the application note at [www.caymanchem.com/bacterialCDNs](http://www.caymanchem.com/bacterialCDNs)

## Our CDN ELISA kits have been cited in more than 100 publications

Selected product citations:

### 2'3'-cGAMP ELISA Kit

Gulen, M.F., Samson, N., Keller, A., *et al.* cGAS-STING drives ageing-related inflammation and neurodegeneration. *Nature* **620(7973)**, 374-380 (2023).

### Cyclic di-AMP ELISA Kit

Oberkampf, M., Hamiot, A., Altamirano-Silva, A., *et al.* c-di-AMP signaling is required for bile salt resistance, osmotolerance, and long-term host colonization by *Clostridioides difficile*. *Sci. Signal.* **15(750)**, eabn8171 (2022).

### Cyclic di-GMP ELISA Kit

Liu, C., Sun, D., Liu, J., *et al.* cAMP and c-di-GMP synergistically support biofilm maintenance through the direct interaction of their effectors. *Nat. Commun.* **13(1)**, 1493 (2022).

## Explore these kits for additional data, including:

- Complete data on kit performance:
  - Spike and recovery data
  - Linearity data
  - Cross reactivity tables
- Detailed assay kit protocols
- List of supplied reagents and materials

Explore more at [www.caymanchem.com](http://www.caymanchem.com)



## Is there a particular CDN you'd like to see an immunoassay developed for?

Cayman has the knowledge and experience that comes from decades of assay development, validation, and performance. We continue to collaborate with the nucleotide experts at Biolog Life Science Institute to develop more novel assays for key CDNs and other cyclic oligonucleotides, delivering the sensitivity and specificity needed to detect biologically significant analyte levels.

Email [sales@caymanchem.com](mailto:sales@caymanchem.com) to discuss your research needs