

Cyclic GMP Complete ELISA Kit ab133052

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Overview

Product name	Cyclic GMP Complete ELISA Kit
Detection method	Colorimetric
Sample type	Cell culture supernatant, Saliva, Urine, Serum, Plasma, Tissue, Cell Lysate
Assay type	Competitive
Recovery	Sample specific recovery

Sample type	Average %	Range
Saliva	102.9	% - %
Urine	97.7	% - %
Serum	101.3	% - %
Tissue Culture Media	101.7	% - %
Hep Plasma	104.4	% - %
EDTA Plasma	115	% - %

Assay time	3h 00m
Assay duration	Multiple steps standard assay

**Product overview**

Abcam's Cyclic GMP Complete *in vitro* competitive ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the accurate quantitative measurement of Cyclic GMP Complete in cells and tissue treated with 0.1N HCl, in addition to culture supernatants, saliva, and serum.

A goat anti-rabbit IgG antibody has been precoated onto 96-well plates. Standards or test samples are added to the wells, along with an alkaline phosphatase (AP) conjugated-cGMP antigen and a polyclonal rabbit antibody specific to cGMP. After incubation the excess reagents are washed away. pNpp substrate is added and after a short incubation the enzyme reaction is stopped and the yellow color generated is read at 405 nm. The intensity of the yellow coloration is inversely proportional to the amount of cGMP captured in the plate.

**Notes**

Guanosine 3',5'-cyclic monophosphate (cyclic GMP; cGMP) was identified in 1963. It has been shown to be present at levels typically 10-100 fold lower than cAMP in most tissues and is formed by the action of the enzyme guanylate cyclase on GTP. It is involved in a number of important

biological reactions. Some hormones, such as acetylcholine, insulin, and oxytocin, as well as certain other chemicals like serotonin and histamine cause an increase in cGMP levels. Stimulators of guanylate cyclase such as the vasodilators niopruside, nitroglycerin, sodium nitrate, and nitric oxide.(NO) also stimulate cGMP levels. Peptides, such as atrial natriuretic peptide (ANP) that relax smooth muscle also increase cGMP concentrations. cGMP has been confirmed as a second messenger for ANP. NO can be synthesized from L-arginine and diffuse through cell membranes. The interaction of NO with guanylate cyclase allows cGMP to act as a third messenger in some cells.

#### Cross Reactivities:

Compound	Cross Reactivity
cGMP	100%
GMP	<0.001%
GTP	<0.001%
cAMP	<0.001%
AMP	<0.001%
ATP	<0.001%
cUMP	<0.001%
CTP	<0.001%

#### Platform

Microplate

#### Properties

#### Storage instructions

Please refer to protocols.

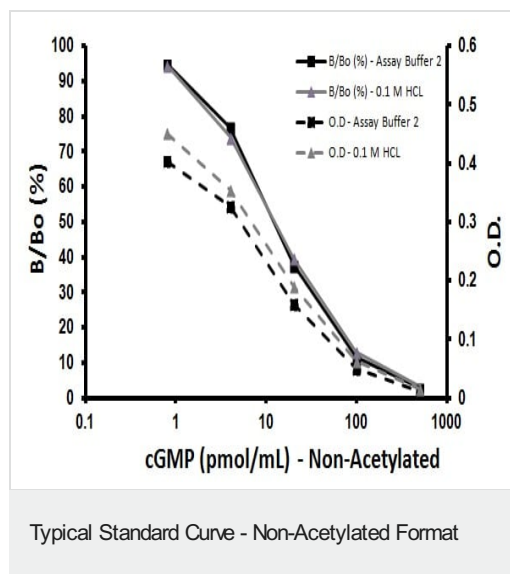
Components	1 x 96 tests
0.1M HCl	1 x 27ml
20X Wash Buffer Concentrate	1 x 27ml
Acetylation kit - Acetic Anhydride	1 x 1ml
Acetylation kit - Triethylamine	1 x 2ml
Assay Buffer 2	1 x 27ml
Cyclic GMP Complete Alkaline Phosphatase Conjugate	1 x 5ml
Cyclic GMP Complete Antibody	1 x 5ml

Components	1 x 96 tests
Cyclic GMP Complete Standard	1 x 500µl
Goat anti-rabbit IgG Microplate (12 x 8 wells)	1 unit
Neutralizing Reagent	1 x 5ml
Plate Sealer	1 unit
pNpp Substrate	1 x 20ml
Stop Solution	1 x 5ml

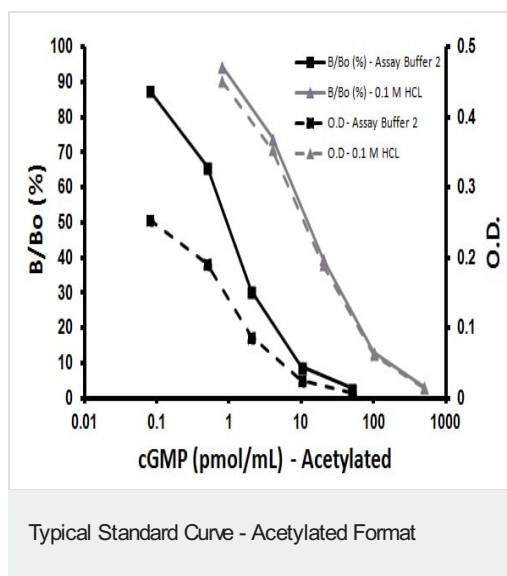
## Relevance

Cyclic guanosine monophosphate (cGMP) serves as a second messenger in a manner similar to that observed with cAMP. Peptide hormones, such as the natriuretic factors, activate receptors that are associated with membrane-bound guanylate cyclase (GC). Receptor activation of GC leads to the conversion of GTP to cGMP. Nitric oxide (NO) also stimulates cGMP production by activating soluble GC, perhaps by binding to the heme moiety of the enzyme. Similar to cAMP, cGMP mediates most of its intracellular effects through the activation of specific cGMP dependent protein kinases (PKG).

## Images



Representative Standard Curve using ab133052. Non-Acetylated Format.



Representative Standard Curve using ab133052. Acetylated Format.

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