

Cyclic GMP ELISA Kit ab133026

[2 Images](#)

Overview

Product name	Cyclic GMP ELISA Kit
Detection method	Colorimetric
Sample type	Cell culture supernatant, Saliva, Urine, Serum, Plasma
Assay type	Competitive
Assay time	3h 0m
Assay duration	Multiple steps standard assay

Product overview Abcam's Cyclic GMP (cGMP) *in vitro* competitive ELISA (Enzyme-Linked Immunosorbent Assay) kit is designed for the accurate quantitative measurement of Cyclic GMP in saliva, plasma (Heparin, EDTA), urine, and serum and tissue culture supernatants.

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. After a short incubation the alkaline phosphatase 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) 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 nitroprusside, 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 Reactivity

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

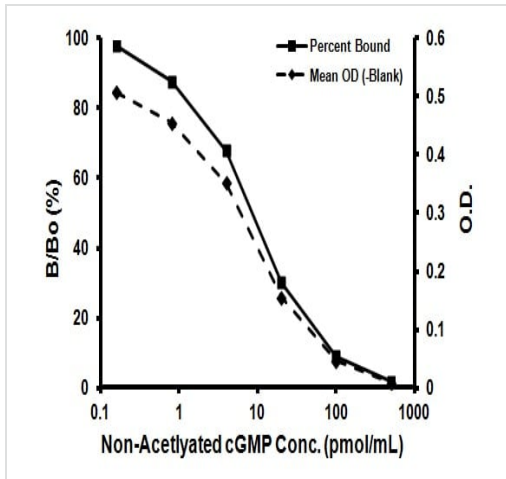
Storage instructions Please refer to protocols.

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

Relevance

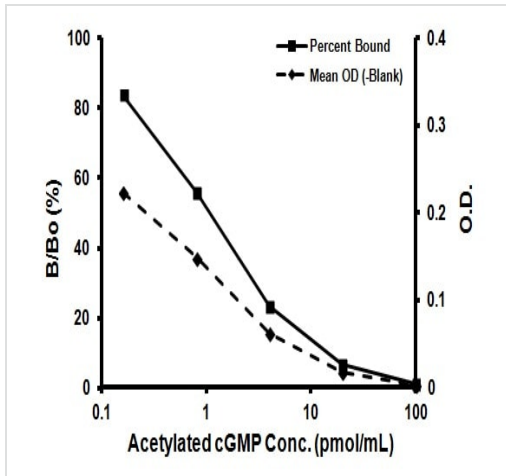
Cyclic guanosine monophosphate (cGMP) serves as a second messenger in a manner similar to that observed with cAMP. Peptide hormones, such as the natriuretic factors, activate receptors that are associated with membrane-bound guanylate cyclase (GC). Receptor activation of GC leads to the conversion of 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 ab133026.

Typical Standard Curve



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Typical Standard Curve

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