PRODUCT INFORMATION

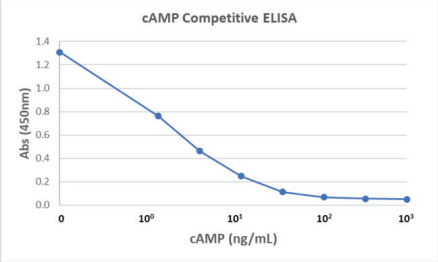
Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466)

Item No. 42803

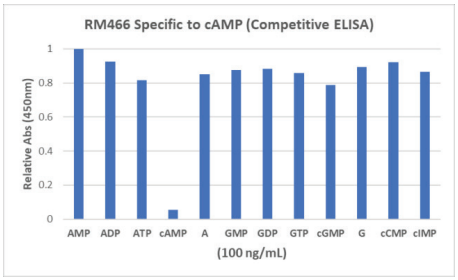
Overview and Properties

Contents:	This vial contains 50 µg of protein A-affinity purified antibody.
Synonyms:	Adenosine 3',5'-cyclic mononucleotide, Adenosine 3',5'-cyclic monophosphate, cAMP
Immunogen:	cAMP-KLH conjugate
Cross Reactivity:	(+) cAMP; (-) Adenosine, AMP, ADP, ATP, cCMP, cGMP, cIMP, guanosine, GMP, GDP, GTP
Species Reactivity:	Species Independent
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM466
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA; the recommended starting concentration is 0.05–0.5 µg/ml. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

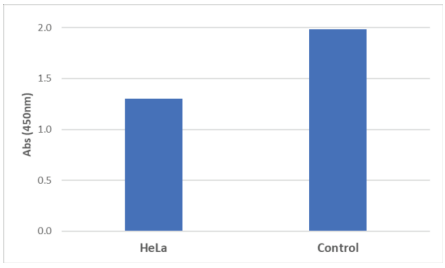
Images



Competitive ELISA of cAMP using Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466). The 96-well plate was coated with 1 µg/ml of goat anti-rabbit IgG (50 µl/well). 0.05 µg/ml of Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466) (50 µl/well) was added and incubated. After wash and block, different concentrations of cAMP (25 µl/well) were added along with 25 µl/well of 1:5,000 diluted HRP-conjugated cAMP. TMB was used to develop the color after incubation and wash.



Competitive ELISA showing the specificity of Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466). The 96-well plate was coated with 1 µg/ml of goat anti-rabbit IgG (50 µl/well). 0.05 µg/ml of Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466) (50 µl/well) was added and incubated. After wash and block, cAMP and other cyclic nucleotides or nucleoside phosphates (25 µl/well) were added along with 25 µl/well of 1:5,000 diluted HRP-conjugated cAMP (RM466). TMB was used to develop the color after incubation and wash.



Competitive ELISA showing the specificity of Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466) in HeLa cells. The 96-well plate was coated with 1 µg/ml of goat anti-rabbit IgG (50 µl/well). 0.05 µg/ml of Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466) (50 µl/well) was added and incubated. After wash and block, HeLa cell lysate (~105 cell/ml) or control (lysate buffer only) (25 µl/well) were added along with 25 µl/well of 1:5,000 diluted HRP-conjugated cAMP (RM466). TMB was used to develop the color after incubation and wash.

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Description

Cyclic AMP (cAMP) is a ubiquitous cellular second messenger and critical component of G protein-coupled receptor (GPCR) pathways that use $G\alpha_s$ or $G\alpha_i$ subunits for signaling.[1] cAMP is synthesized by membrane-bound adenylate cyclase from ATP after the binding of ligands to $G\alpha_s$-linked GPCRs. It activates various targets, including PKA, the guanine nucleotide exchange factor EPAC, and cyclic nucleotide-gated ion channels, that have roles in a wide variety of cellular processes from gene transcription to calcium signaling.[1,2] cAMP synthesis is prevented by $G\alpha_i$-linked GPCR activation, which inhibits adenylate cyclase, and its activity can be attenuated by phosphodiesterase-mediated hydrolysis to AMP.[1] Therefore, the concentration of cAMP in a cell is a function of the ratio of synthesis from ATP by adenylate cyclase and its rate of breakdown to AMP by phosphodiesterases. Cayman's Cyclic AMP Rabbit Monoclonal Antibody (Clone RM466) can be used for ELISA.

References

1. Sassone-Corsi, P. The cyclic AMP pathway. *Cold Spring Harb. Perspect. Biol.* **4(12)**, a011148 (2012).
2. Fimia, G.M. and Sassone-Corsi, P. Cyclic AMP signalling. *J. Cell Sci.* **114(Pt 11)**, 1971-1972 (2001).

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