abcam

Product datasheet

Anti-cAMP antibody [M486] ab70280

2 References 4 Images

Overview

Product name	Anti-cAMP antibody [M486]
Description	Mouse monoclonal [M486] to cAMP
Tested applications	**Suitable for:** IHC-Fr, ICC/IF, WB, Indirect ELISA
Species reactivity	**Reacts with:** Species independent
Immunogen	A chemically linked 3', 5'-Cyclic Adenosine Monophosphate (cAMP).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: None Constituents: PBS, pH 7.2 containing antibody stabilizer
Purity	Ascites
Clonality	Monoclonal
Clone number	M486
Isotype	IgG1

Applications

Our Abpromise guarantee covers the use of **ab70280** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-Fr		Use at an assay dependent concentration. PubMed: 22649251
ICC/IF		Use at an assay dependent concentration.
WB		Use a concentration of 0.1 - 1 µg/ml. Predicted molecular weight: 1 kDa. WB was tested against chemically linked cAMP-carrier protein which was used for antibody screening.

Application	Abreviews	Notes
Indirect ELISA		Use a concentration of 0.01 - 0.1 µg/ml.

Target

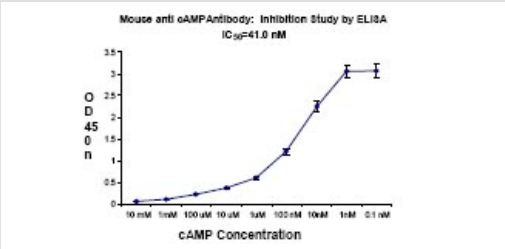
Relevance

Cyclic adenosine monophosphate (cAMP) plays a key role as an intracellular second messenger for transduction events that follow a number of extracellular signals. The G-Protein Coupled Receptors (GPCR) is the largest family of cell surface receptors. They can be activated by different ligands, such as neurotransmitters, hormones, ions, small molecules, peptides, and other physiological signaling molecules. Typically, the binding of the ligands to its receptor resulting in the activation of G-proteins, in return, activates the effector adenylyl cyclase evoking the production of cAMP. The activation of a protein kinase by cAMP results in the phosphorylation of substrate proteins. Currently successful drugs in marketing have been developed to target these receptors. Among the GPCRs, ~367 receptors are potential drug development targets, but only about 20 have been used to generate therapeutically and commercially successful drugs so far. Because the involvement of cAMP can amplify the response of the ligand binding, the second messenger cAMP has been largely employed to monitor the activation of the GPCR to facilitate the therapeutic drug discovery.

Cellular localization

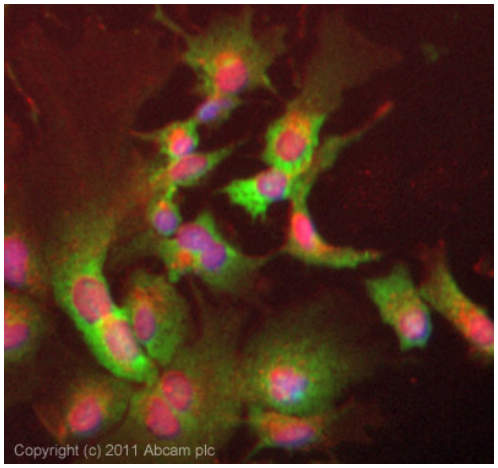
Secreted

Images



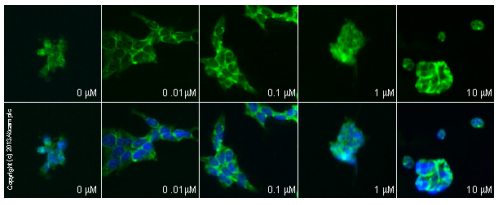
Indirect ELISA - cAMP antibody [M486] - BSA free (ab70280)

ELISA Plot:. Adenosine-3', 5'-cyclic AMP immobilized onto plates, followed by addition of stand cyclic AMP. The mouse anti c-AMP was added subsequentially, and visiualized by chromatogenic substrate. Each sample was done in triplicate. IC50 was then calculated.



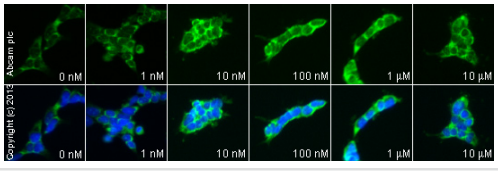
Immunocytochemistry/ Immunofluorescence-cAMP antibody [M486] - BSA free(ab70280)

ICC/IF image of ab70280 stained HepG2 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab70280, 1µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-mouse IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Immunocytochemistry/ Immunofluorescence - Anti-cAMP antibody [M486] - BSA free (ab70280)

ab70280 staining cAMP in HEK293 cells treated with neuropeptide S (ab120174), by ICC/IF. Increase in cAMP expression correlates with increased concentration of neuropeptide S, as described in literature. The cells were incubated at 37°C for 10 minutes in media containing different concentrations of ab120174 (neuropeptide S) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab70280 (5 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.



Immunocytochemistry/ Immunofluorescence-Anti-cAMP antibody [M486] - BSA free(ab70280)

ab70280 staining cAMP in HEK293 cells treated with neuropeptide S (ab120246), by ICC/IF. Increase in cAMP expression correlates with increased concentration of neuropeptide S, as described in literature. The cells were incubated at 37°C for 10 minutes in media containing different concentrations of ab120246 (neuropeptide S) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab70280 (5 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.

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