

# Recombinant human cAMP Protein Kinase Catalytic subunit ab56268

**2 References**   [画像数 4](#)

### 製品の詳細

製品名	Recombinant human cAMP Protein Kinase Catalytic subunit
生理活性	(Lot#U220-2) Specific activity 1914 nmol/min/mg (Lot#B207-1) Specific activity 141 nmol/min/mg (Lot#U220-2) Specific activity 1914 nmol/min/mg (Lot#B207-1) Specific activity 141 nmol/min/mg
精製度	> 90 % Densitometry. Affinity purified.
発現系	Baculovirus infected Sf9 cells
タンパク質長	Full length protein
Animal free	No
由来	Recombinant
生物種	Human
予測される分子量	69 kDa including tags
タグ	GST tag N-Terminus

### 特性

Our **Abpromise guarantee** covers the use of **ab56268** in the following tested applications.

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

アプリケーション	SDS-PAGE
	Functional Studies

製品の状態	Liquid
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備考	it is recommended to store ab56268 in glycerol at -80C to preserve its activity. <b><u>ab204856</u></b> (CREB peptide) can be utilized as a substrate for assessing kinase activity
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### 前処理および保存

保存方法および安定性	Shipped on dry ice. Upon delivery aliquot and store at -80°C. Avoid freeze / thaw cycles. pH: 7.50
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Constituents: 0.0038% EGTA, 0.00174% PMSF, 0.00385% DTT, 0.79% Tris HCl, 0.00292% EDTA, 25% Glycerol (glycerin, glycerine), 0.87% Sodium chloride

This product is an active protein and may elicit a biological response in vivo, handle with caution.

## 関連情報

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### 機能

Phosphorylates a large number of substrates in the cytoplasm and the nucleus. Regulates the abundance of compartmentalized pools of its regulatory subunits through phosphorylation of PJA2 which binds and ubiquitinates these subunits, leading to their subsequent proteolysis. Phosphorylates CDC25B, ABL1, NFKB1, CLDN3, PSMC5/RPT6, PJA2, RYR2, RORA and VASP. RORA is activated by phosphorylation. Required for glucose-mediated adipogenic differentiation increase and osteogenic differentiation inhibition from osteoblasts. Involved in the regulation of platelets in response to thrombin and collagen; maintains circulating platelets in a resting state by phosphorylating proteins in numerous platelet inhibitory pathways when in complex with NF-kappa-B (NFKB1 and NFKB2) and I-kappa-B-alpha (NFKBIA), but thrombin and collagen disrupt these complexes and free active PRKACA stimulates platelets and leads to platelet aggregation by phosphorylating VASP. Prevents the antiproliferative and anti-invasive effects of alpha-difluoromethylornithine in breast cancer cells when activated. RYR2 channel activity is potentiated by phosphorylation in presence of luminal Ca(2+), leading to reduced amplitude and increased frequency of store overload-induced Ca(2+) release (SOICR) characterized by an increased rate of Ca(2+) release and propagation velocity of spontaneous Ca(2+) waves, despite reduced wave amplitude and resting cytosolic Ca(2+). PSMC5/RPT6 activation by phosphorylation stimulates proteasome. Negatively regulates tight junctions (TJs) in ovarian cancer cells via CLDN3 phosphorylation. NFKB1 phosphorylation promotes NF-kappa-B p50-p50 DNA binding. Involved in embryonic development by down-regulating the Hedgehog (Hh) signaling pathway that determines embryo pattern formation and morphogenesis. Prevents meiosis resumption in prophase-arrested oocytes via CDC25B inactivation by phosphorylation. May also regulate rapid eye movement (REM) sleep in the pedunculo pontine tegmental (PPT). Phosphorylates APOBEC3G and AICDA. Isoform 2 phosphorylates and activates ABL1 in sperm flagellum to promote spermatozoa capacitation.

### 組織特異性

Isoform 1 is ubiquitous. Isoform 2 is sperm-specific and is enriched in pachytene spermatocytes but is not detected in round spermatids.

### 配列類似性

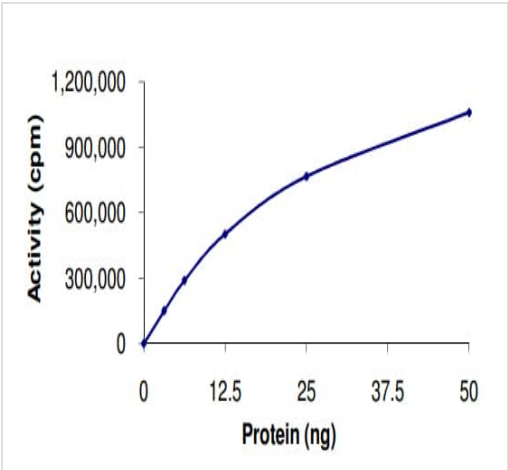
Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. cAMP subfamily. Contains 1 AGC-kinase C-terminal domain. Contains 1 protein kinase domain.

### 翻訳後修飾

Asn-3 is partially deaminated to Asp giving rise to 2 major isoelectric variants, called CB and CA respectively. Autophosphorylated. Phosphorylation is enhanced by vitamin K(2). Phosphorylated on threonine and serine residues. Phosphorylation on Thr-198 is required for full activity. Phosphorylated at Tyr-331 by activated receptor tyrosine kinases EGFR and PDGFR; this increases catalytic efficiency.

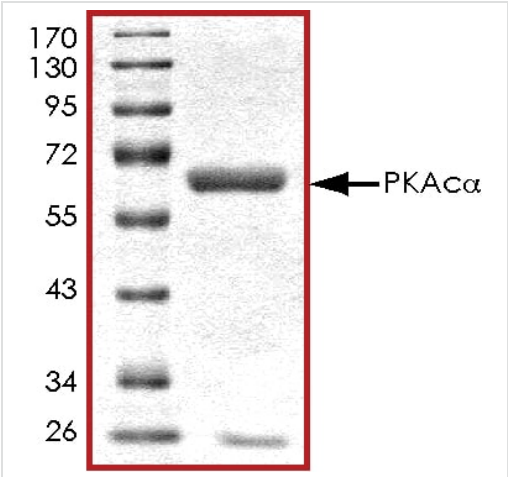
### 細胞内局在

Cytoplasm. Cell membrane. Nucleus. Mitochondrion. Translocates into the nucleus (monomeric catalytic subunit). The inactive holoenzyme is found in the cytoplasm. Distributed throughout the cytoplasm in meiotically incompetent oocytes. Associated to mitochondrion as meiotic competence is acquired. Aggregates around the germinal vesicles (GV) at the immature GV stage oocytes and Cell projection, cilium, flagellum. Expressed in the midpiece region of the sperm flagellum.



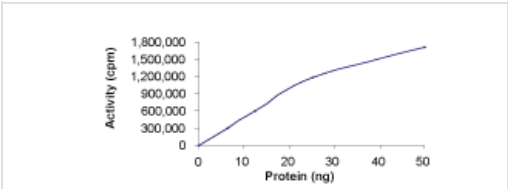
Functional Studies - Recombinant human cAMP Protein Kinase Catalytic subunit (ab56268)

The specific activity of cAMP Protein Kinase Catalytic subunit (ab56268) was determined to be 2100 nmol/min/mg as per activity assay protocol



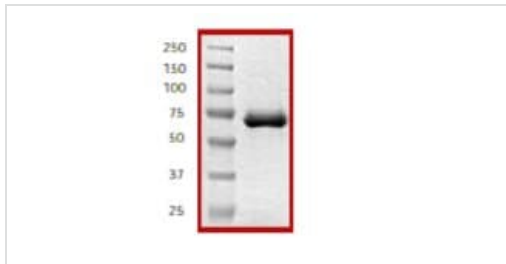
SDS-PAGE - Recombinant human cAMP Protein Kinase Catalytic subunit (ab56268)

SDS PAGE analysis of ab56268



Functional Studies - Recombinant human cAMP Protein Kinase Catalytic subunit (ab56268)

Kinase assay with ab56268 at a 0.1 μg/μl dilution, Specific Activity 1914 nmol/min/mg.



ab56268 on SDS-PAGE.

SDS-PAGE - Recombinant human cAMP Protein  
Kinase Catalytic subunit (ab56268)

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