

Product datasheet

Anti-cAMP Protein Kinase Catalytic subunit antibody [4B12] (HRP) ab10049

概述

产品名称	Anti-cAMP蛋白Kinase Catalytic subunit抗体[4B12] (HRP)
描述	小鼠单克隆抗体[4B12] to cAMP蛋白Kinase Catalytic subunit (HRP)
宿主	Mouse
偶联物	HRP
经测试应用	适用于: ELISA
种属反应性	与反应: Cow
免疫原	These clones have been derived from hybridization of SP2/0 myeloma cells with spleen cells of Balb/c mice immunized with cAMP-dependent protein kinase purified from bovine cardiac muscle.
常规说明	Concentration varies from lot to lot and can be provided on request.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at +4°C.
存储溶液	Preservative: 0.1% Sodium Azide Constituents: 50% Glycerol, PBS, 10mg/ml BSA, pH 7.4
纯度	Protein A purified
纯化说明	Purity is tested by electrophoresis.
克隆	单克隆
克隆编号	4B12
同种型	IgG2a

应用

Our [Abpromise guarantee](#) covers the use of **ab10049** in the following tested applications.

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

应用	Ab评论	说明
ELISA		Use at an assay dependent dilution.

靶标

功能

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 pedunculopontine tegmental (PPT). Phosphorylates APOBEC3G and AICDA. Isoform 2 phosphorylates and activates ABL1 in sperm flagellum to promote spermatozoa capacitation.

组织特异性

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

序列相似性

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.

翻译后修饰

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.

细胞定位

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.

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