Product Name: PKA Iα reg Rabbit Polyclonal Antibody
Catalog #: APRab16182

Summary

Production Name	PKA Iα reg Rabbit Polyclonal Antibody
Description	Rabbit Polyclonal Antibody
Host	Rabbit
Application	WB,IHC-P,IF-P,IF-F,ICC/IF,ELISA
Reactivity	Human,Mouse,Rat

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Polyclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
Buffer	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% New type preservative N.
Purification	Affinity purification

Immunogen

Gene Name	PRKAR1A
Alternative Names	PRKAR1A; PKR1; PRKAR1; TSE1; cAMP-dependent protein kinase type I-alpha regulatory subunit; Tissue-specific extinguisher 1; TSE1
Gene ID	5573.0
SwissProt ID	P10644.The antiserum was produced against synthesized peptide derived from human KAP0. AA range:271-320

Application

Dilution Ratio	WB 1:500-1:2000, IHC-P 1:100-1:300, IF-P/IF-F/ICC/IF 1:200-1:1000, ELISA 1:20000.Not yet tested in other applications.
Molecular Weight	43kDa

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Background

cAMP is a signaling molecule important for a variety of cellular functions. cAMP exerts its effects by activating the cAMP-dependent protein kinase, which transduces the signal through phosphorylation of different target proteins. The inactive kinase holoenzyme is a tetramer composed of two regulatory and two catalytic subunits. cAMP causes the dissociation of the inactive holoenzyme into a dimer of regulatory subunits bound to four cAMP and two free monomeric catalytic subunits. Four different regulatory subunits and three catalytic subunits have been identified in humans. This gene encodes one of the regulatory subunits. This protein was found to be a tissue-specific extinguisher that down-regulates the expression of seven liver genes in hepatoma x fibroblast hybrids. Mutations in this gene cause Carney complex (CNC). This gene can fuse to the RET protooncogdisease:Defects in PRKAR1A are the cause of Carney complex type 1 (CNC1) [MIM:160980]. CNC is a multiple neoplasia syndrome characterized by spotty skin pigmentation, cardiac and other myxomas, endocrine tumors, and psammomatous melanotic schwannomas.,disease:Defects in PRKAR1A are the cause of intracardiac myxoma [MIM:255960]. Inheritance is autosomal recessive.,disease:Defects in PRKAR1A are the cause of primary pigmented nodular adrenocortical disease type 1 (PPNAD1) [MIM:610489]. Primary pigmented nodular adrenocortical disease is a rare bilateral adrenal defect causing ACTH-independent Cushing syndrome. Macroscopic appearance of the adrenals is characteristic with small pigmented micronodules observed in the cortex. PPNAD1 is most often diagnosed in patients with Carney complex, but it can also be observed in patients without other manifestations or familial history.,PTM:The pseudophosphorylation site binds to the substrate-binding region of the catalytic chain, resulting in the inhibition of its activity.,similarity:Belongs to the cAMP-dependent kinase regulatory chain family.,similarity:Contains 2 cyclic nucleotide-binding domains.,subunit:The inactive form of the enzyme is composed of two regulatory chains and two catalytic chains. Activation by cAMP produces two active catalytic monomers and a regulatory dimer that binds four cAMP molecules. PRKAR1A also interacts with RFC2; the complex may be involved in cell survival. Interacts with AKAP4.,tissue specificity:Four types of regulatory chains are found: I-alpha, I-beta, II-alpha, and II-beta. Their expression varies among tissues and is in some cases constitutive and in others inducible.,

Research Area

Apoptosis_Inhibition;Apoptosis_Mitochondrial;Apoptosis_Overview;Insulin_Receptor;

Image Data

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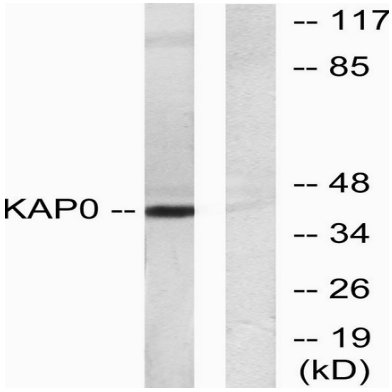
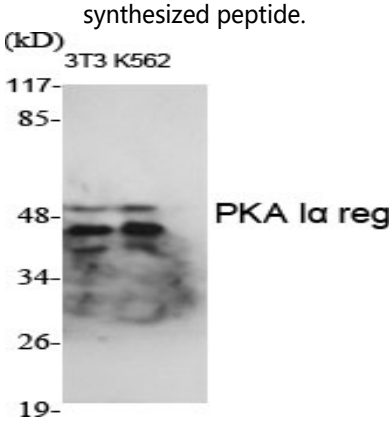
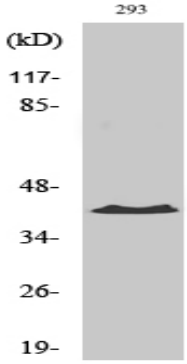


Western blot analysis of lysates from HepG2 cells, using KAP0 Antibody. The lane on the right is blocked with the synthesized peptide.



Western Blot analysis of various cells using PKA Iα reg Polyclonal Antibody



Western Blot analysis of 293 cells using PKA Iα reg Polyclonal Antibody

Note

For research use only.