

Product datasheet for **CF500641**

Protein Kinase A regulatory subunit I alpha (PRKAR1A) Mouse Monoclonal Antibody [Clone ID: OTI6C7]

Product data:

Product Type:	Primary Antibodies
Clone Name:	OTI6C7
Applications:	IF, IHC, WB
Recommended Dilution:	WB 1:2000, IHC 1:50, IF 1:100
Reactivity:	Human, Mouse, Rat
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	Full-length protein expressed in 293T cell transfected with human PRKAR1A expression vector
Formulation:	Lyophilized powder (original buffer 1X PBS, pH 7.3, 8% trehalose)
Reconstitution Method:	For reconstitution, we recommend adding 100uL distilled water to a final antibody concentration of about 1 mg/mL. To use this carrier-free antibody for conjugation experiment, we strongly recommend performing another round of desalting process. (OriGene recommends Zeba Spin Desalting Columns, 7KMWCO from Thermo Scientific)
Purification:	Purified from mouse ascites fluids or tissue culture supernatant by affinity chromatography (protein A/G)
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	43.0 kDa
Gene Name:	Homo sapiens protein kinase cAMP-dependent type I regulatory subunit alpha (PRKAR1A), transcript variant 3, mRNA.
Database Link:	NP_997637 Entrez Gene 19084 Mouse Entrez Gene 25725 Rat Entrez Gene 5573 Human P10644



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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 protooncogene by gene rearrangement and form the thyroid tumor-specific chimeric oncogene known as PTC2. A nonconventional nuclear localization sequence (NLS) has been found for this protein which suggests a role in DNA replication via the protein serving as a nuclear transport protein for the second subunit of the Replication Factor C (RFC40). Three alternatively spliced transcript variants encoding the same protein have been observed.

Synonyms:

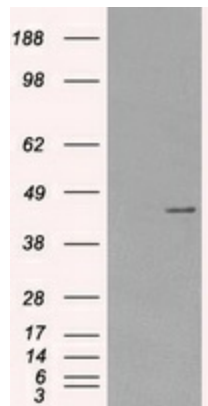
ACRDYS1; ADOHR; CAR; CNC; CNC1; PKR1; PPNAD1; PRKAR1; TSE1

Protein Families:

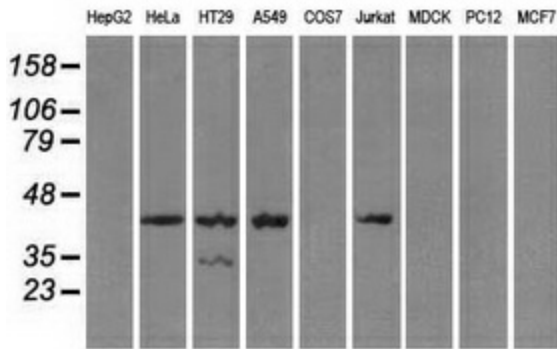
Druggable Genome, Transcription Factors

Protein Pathways:

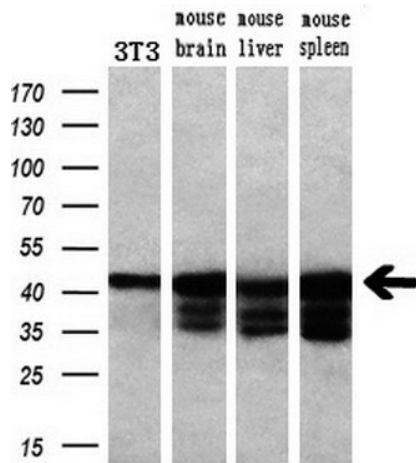
Apoptosis, Insulin signaling pathway

Product images:

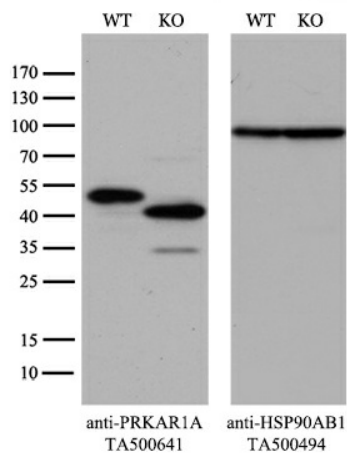
HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY PRKAR1A (Cat# [RC212810], Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-PRKAR1A (Cat# [TA500641]). Positive lysates [LY403945] (100ug) and [LC403945] (20ug) can be purchased separately from OriGene.



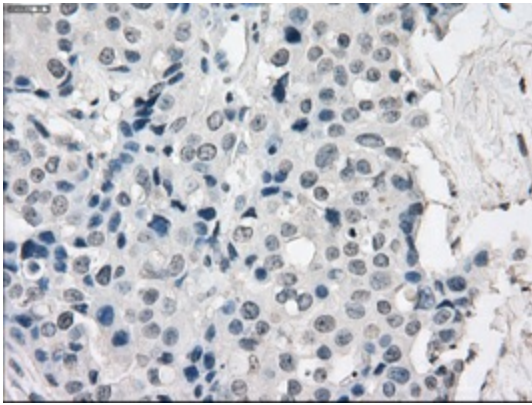
Western blot analysis of extracts (35ug) from 9 different cell lines by using anti-PRKAR1A monoclonal antibody.



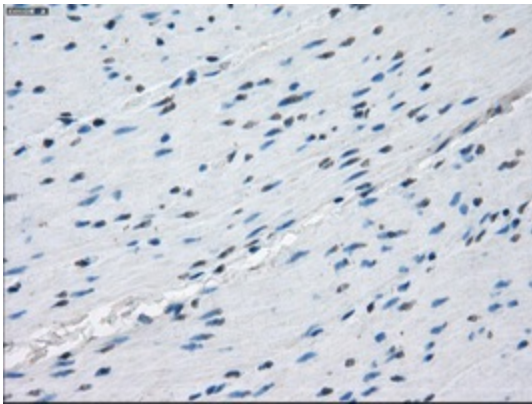
Western blot analysis of extracts (10ug) from a mouse cell line and 3 different mouse tissues by using anti-PRKAR1A monoclonal antibody (1:200).



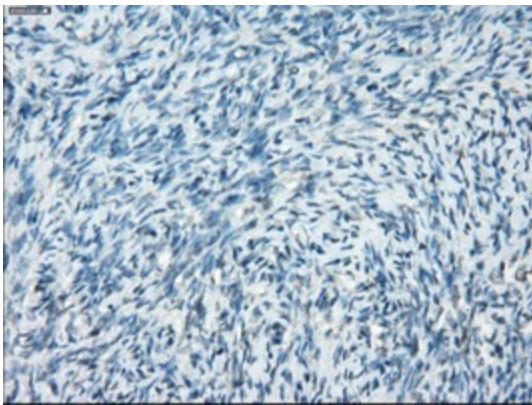
Equivalent amounts of cell lysates (10 ug per lane) of wild-type 293T cells (WT, Cat# LC810293T) and PRKAR1A-Knockout 293T cells (KO, Cat# [LC811860]) were separated by SDS-PAGE and immunoblotted with anti-PRKAR1A monoclonal antibody [TA500641], (1:500). Then the blotted membrane was stripped and reprobed with anti-HSP90AB1 antibody ([TA500494]) as a loading control.



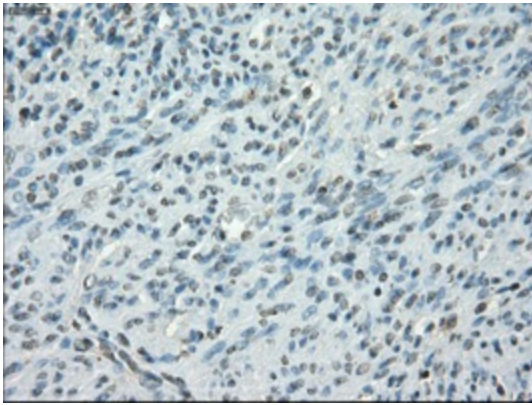
Immunohistochemical staining of paraffin-embedded Adenocarcinoma of breast tissue using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)



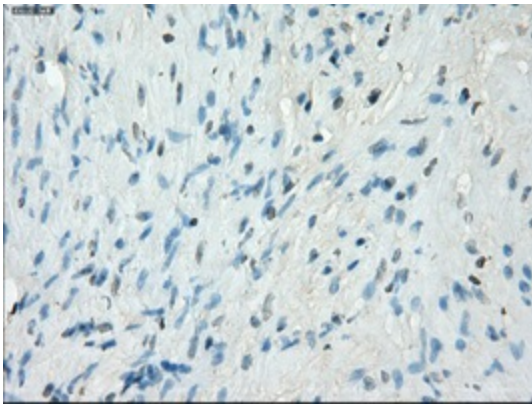
Immunohistochemical staining of paraffin-embedded colon tissue within the normal limits using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)



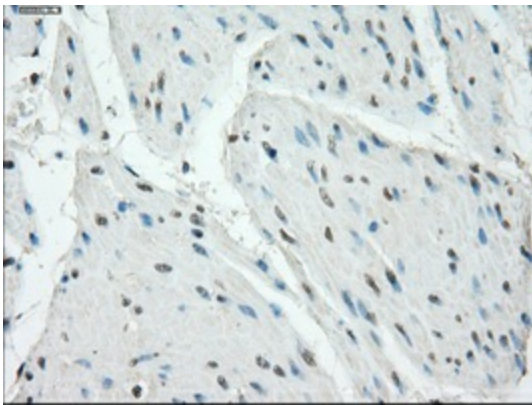
Immunohistochemical staining of paraffin-embedded Ovary tissue within the normal limits using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)



Immunohistochemical staining of paraffin-embedded endometrium tissue within the normal limits using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)



Immunohistochemical staining of paraffin-embedded prostate tissue within the normal limits using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)



Immunohistochemical staining of paraffin-embedded Carcinoma of bladder tissue using anti-PRKAR1A mouse monoclonal antibody. (Heat-induced epitope retrieval by 10mM citric buffer, pH6.0, 100°C for 10min, [TA500641], Dilution 1:50)

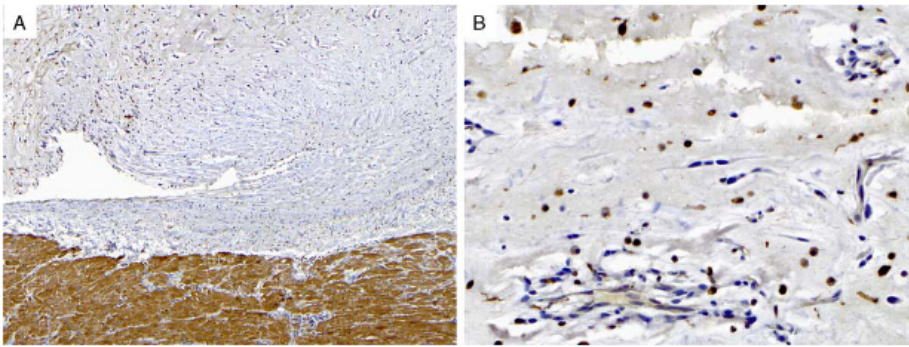
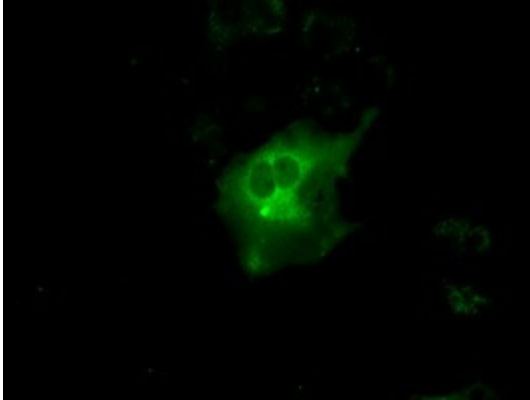


Figure from citation: PRKAR1A IHC in a CNC-associated cardiac myxoma. A, A photomicrograph of the specimen at low power exhibits the robust reactivity of the adjacent normal myocardium with antibodies directed against PRKAR1A. B, A high-power photomicrograph exhibits the lack of reactivity seen in the neoplastic (myxoma) cells, although the intratumoral histiocytes are still strongly reactive. Dilution: 1:8000 [View Citation](#)



Anti-PRKAR1A mouse monoclonal antibody ([TA500641]) immunofluorescent staining of COS7 cells transiently transfected by pCMV6-ENTRY PRKAR1A ([RC212810]).