10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

CDK4 Antibody [Knockout Validated]

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AM8485b

Product Information

Application	WB, IHC-P, E
Primary Accession	P11802
Reactivity	Human, Mouse
Host	Mouse
Clonality	monoclonal
Isotype	IgG2a,κ
Clone Names	1529CT850.162.73
Calculated MW	33730

Additional Information

Gene ID	1019
Other Names	Cyclin-dependent kinase 4, Cell division protein kinase 4, PSK-J3, CDK4
Target/Specificity	This CDK4 antibody is generated from a mouse immunized with a recombinant protein.
Dilution	WB~~1:2000 IHC-P~~1:300 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein G column, followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	CDK4 Antibody [Knockout Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	CDK4
Function	Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are

major integrators of various mitogenenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dependent manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex.

Cellular Location

Cytoplasm. Nucleus. Nucleus membrane. Note=Cytoplasmic when non-complexed Forms a cyclin D-CDK4 complex in the cytoplasm as cells progress through G(1) phase. The complex accumulates on the nuclear membrane and enters the nucleus on transition from G(1) to S phase. Also present in nucleoli and heterochromatin lumps. Colocalizes with RB1 after release into the nucleus.

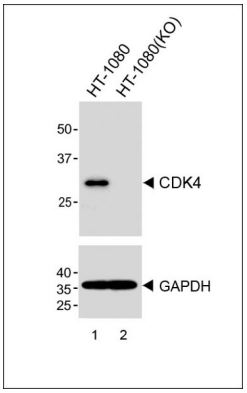
Background

Ser/Thr-kinase component of cyclin D-CDK4 (DC) complexes that phosphorylate and inhibit members of the retinoblastoma (RB) protein family including RB1 and regulate the cell-cycle during G(1)/S transition. Phosphorylation of RB1 allows dissociation of the transcription factor E2F from the RB/E2F complexes and the subsequent transcription of E2F target genes which are responsible for the progression through the G(1) phase. Hypophosphorylates RB1 in early G(1) phase. Cyclin D-CDK4 complexes are major integrators of various mitogenenic and antimitogenic signals. Also phosphorylates SMAD3 in a cell-cycle-dependent manner and represses its transcriptional activity. Component of the ternary complex, cyclin D/CDK4/CDKN1B, required for nuclear translocation and activity of the cyclin D-CDK4 complex.

References

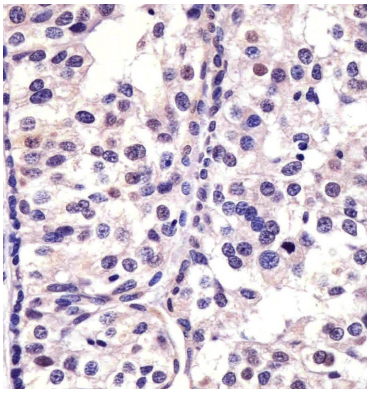
Hanks S.K.,et al.Submitted (FEB-1987) to the EMBL/GenBank/DDBJ databases.
Elkahloun A.G.,et al.Genomics 42:295-301(1997).
Wolfel T.,et al.Science 269:1281-1284(1995).
Zuo L.,et al.Nat. Genet. 12:97-99(1996).
Ota T.,et al.Nat. Genet. 36:40-45(2004).

Images

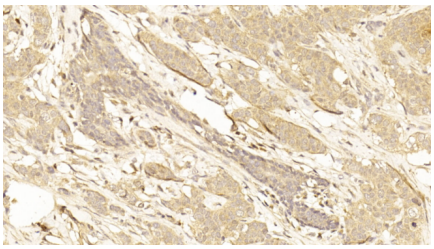


All lanes : Anti-CDK4 Antibody at 1:1000 dilution (upper) Lane 1: HT1080 Lane 2: HT1080-Knockout Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Mouse IgG, (H+L), Peroxidase conjugated (ASP1613) at 1/8000 dilution. Predicted band size : 33 kDa

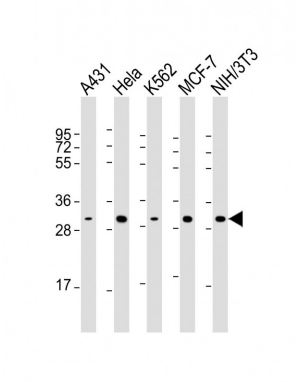
AM8485b staining CDK4 in human breast carcinoma sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent



antibody was used as the secondary antibody.



Immunohistochemical analysis of paraffin-embedded Human Breast cancer section using Pink1(Cat#AM8485b). AM8485b was diluted at 1:300 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



All lanes : Anti-CDK4 Antibody at 1:2000 dilution Lane 1: A431 whole cell lysate Lane 2: Hela whole cell lysate Lane 3: K562 whole cell lysate Lane 4: MCF-7 whole cell lysate Lane 5: NIH/3T3 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-mouse IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDM/TBST.