

Product datasheet for **TA346910**

CDK5 Mouse Monoclonal Antibody [Clone ID: 2E8-F9-B7-C11]

Product data:

Product Type:	Primary Antibodies
Clone Name:	2E8-F9-B7-C11
Applications:	IF, WB
Recommend Dilution:	WB: 1:500, IF: 1:150
Reactivity:	Human, Monkey, Mouse, Rat
Host:	Mouse
Isotype:	IgG1
Clonality:	Monoclonal
Immunogen:	The immunogen for CDK5 antibody: purified recombinant human CDK5(N-terminus) protein fragments expressed in E.coli.
Formulation:	ascites
Predicted Protein Size:	36 kDa
Gene Name:	cyclin-dependent kinase 5
Database Link:	NP_004926 Entrez Gene 12568 MouseEntrez Gene 140908 RatEntrez Gene 1020 Human



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Background:

Cdks (cyclin-dependent kinases) are heteromeric serine/threonine kinases that control progression through the cell cycle in concert with their regulatory subunits, the cyclins. Although there are 12 different cdk genes, only 5 have been shown to directly drive the cell cycle (Cdk1, -2, -3, -4, and -6). Following extracellular mitogenic stimuli, cyclin D gene expression is upregulated. Cdk4 forms a complex with cyclin D and phosphorylates Rb protein, leading to liberation of the transcription factor E2F. E2F induces transcription of genes including cyclins A and E, DNA polymerase and thymidine kinase. Cdk4-cyclin E complexes form and initiate G1/S transition. Subsequently, Cdk1-cyclin B complexes form and induce G2/M phase transition. Cdk1-cyclin B activation induces the breakdown of the nuclear envelope and the initiation of mitosis. Cdks are constitutively expressed and are regulated by several kinases and phosphatases, including Wee1, CDK-activating kinase and Cdc25 phosphatase. In addition, cyclin expression is induced by molecular signals at specific points of the cell cycle, leading to activation of Cdks. Tight control of Cdks is essential as misregulation can induce unscheduled proliferation, and genomic and chromosomal instability. Cdk4 has been shown to be mutated in some types of cancer, whilst a chromosomal rearrangement can lead to Cdk6 overexpression in lymphoma, leukemia and melanoma. Cdks are currently under investigation as potential targets for anti-neoplastic therapy, but as Cdks are essential for driving each cell cycle phase, therapeutic strategies that block Cdk activity are unlikely to selectively target tumor cells.

Synonyms:

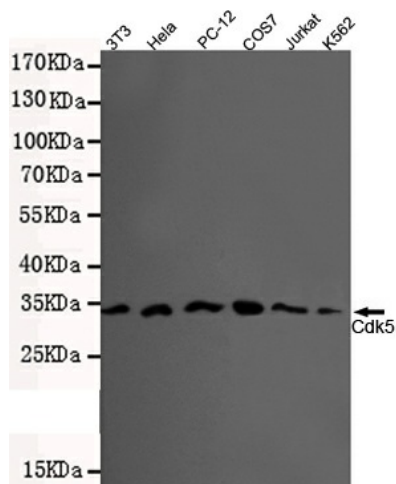
PSSALRE

Protein Families:

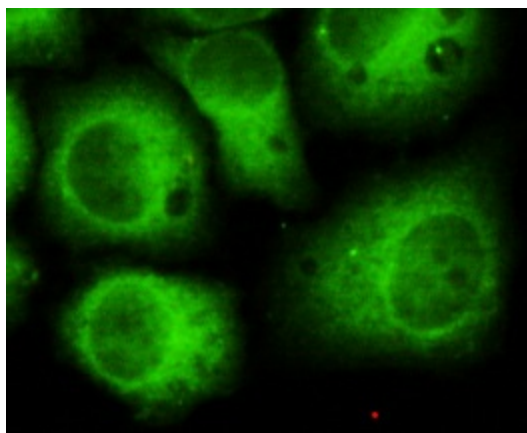
Druggable Genome, Protein Kinase

Protein Pathways:

Alzheimer's disease, Axon guidance

Product images:

Western blot detection of CDK5 (N-terminus) in 3T3, HeLa, PC-12, COS7, Jurkat and K562 lysates using Cdk5 mouse mAb (1:500 diluted). Predicted band size: 36 kDa. Observed band size: 36 kDa. Exposure time: 5 min.



Immunocytochemistry of HeLa cells using anti-CDK5 (N-terminus) mouse mAb diluted 1:150