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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
Recommended 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
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
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 Q00535

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Background: Cdks (cyclin-dependent kinases) are heteromeric serine/threonine kinases that control progression throughthe cell cycle in concert with their regulatory subunits, the cyclins. Although there are 12 different cdkgenes, only 5 have been shown to directly drive the cell cycle (Cdk1, -2, -3, -4, and -6). Followingextracellular mitogenic stimuli, cyclin D gene expression is upregulated. Cdk4 forms a complex with cyclin Dand phosphorylates Rb protein, leading to liberation of the transcription factor E2F. E2F inducestranscription of genes including cyclins A and E, DNA polymerase and thymidine kinase. Cdk4-cyclin Ecomplexes form and initiate G1/S transition. Subsequently, Cdk1-cyclin B complexes form and induce G2/Mphase transition. Cdk1-cyclin B activation induces the breakdown of the nuclear envelope and the initiationof mitosis. Cdks are constitutively expressed and are regulated by several kinases and phosphastases,including Wee1, CDK-activating kinase and Cdc25 phosphatase. In addition, cyclin expression is induced bymolecular signals at specific points of the cell cycle, leading to activation of Cdks. Tight control of Cdksis 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 toCdk6 overexpression in lymphoma, leukemia and melanoma. Cdks are currently under investigation as potentialtargets for antineoplastic therapy, but as Cdks are essential for driving each cell cycle phase, therapeuticstrategies 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