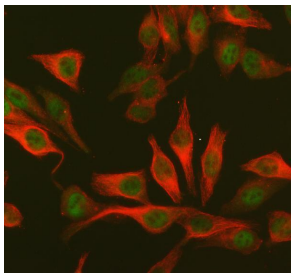
CDK5 Antibody / Neuronal Protein Kinase Antibody (R30624)

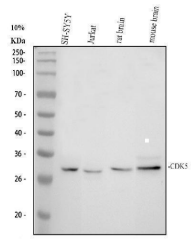
Catalog No.	Formulation	Size
R30624	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

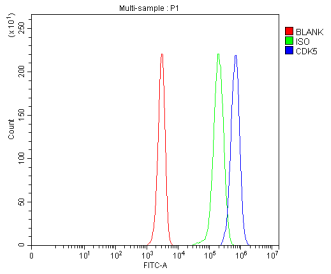
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	Q00535
Applications	Western Blot : 0.5-1ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This CDK5 Antibody / Neuronal Protein Kinase Antibody is available for research use only.



CDK5 Antibody HeLa Cell IF. Immunofluorescent staining of HeLa cells with CDK5 antibody (green) and Alpha Tubulin antibody (red). Enzymatic antigen retrieval was performed for 15 minutes prior to staining. CDK5 immunoreactivity is observed in both the cytoplasm and nucleus, consistent with the expected localization of Cyclin Dependent Kinase 5 (CDK5), a neuronal protein kinase that regulates protein phosphorylation, cytoskeletal organization, intracellular signaling, and neuronal development. Alpha Tubulin (red) serves as a cytoskeletal marker to illustrate cellular morphology.



CDK5 Antibody Human and Rodent Brain WB. Western blot testing of 1) human SH-SY5Y, 2) human Jurkat, 3) rat brain, and 4) mouse brain lysates with CDK5 antibody at 0.5 ug/ml. A distinct immunoreactive band is detected at approximately 33 kDa in all samples, consistent with the predicted molecular weight of Cyclin Dependent Kinase 5 (CDK5). The results demonstrate cross-species detection of this neuronal protein kinase, which regulates protein phosphorylation, cytoskeletal organization, neuronal development, synaptic plasticity, and intracellular signaling.



CDK5 Antibody Jurkat Cell FACS. Flow cytometric analysis of fixed and permeabilized human Jurkat cells stained with CDK5 antibody. Red: blank control. Green: rabbit IgG isotype control. Blue: CDK5 antibody. The rightward shift of the antibody-stained population relative to the isotype control demonstrates specific intracellular detection of Cyclin Dependent Kinase 5 (CDK5), a neuronal protein kinase that regulates protein phosphorylation, cytoskeletal organization, intracellular signaling, neuronal development, and synaptic plasticity.

Description

CDK5 Antibody recognizes Cyclin Dependent Kinase 5 (CDK5), a unique serine/threonine kinase that plays essential roles in neuronal development, synaptic function, and intracellular signaling. Unlike other cyclin-dependent kinases that regulate cell cycle progression, CDK5 is activated primarily through association with the neuron-specific regulatory proteins p35 (CDK5R1) and p39 (CDK5R2), enabling it to control processes largely independent of cell division. Through phosphorylation of numerous neuronal substrates, CDK5 regulates neuronal migration, axon guidance, dendritic spine morphology, synaptic plasticity, neurotransmitter release, and cytoskeletal organization. Consequently, CDK5 Antibody is widely used to investigate nervous system development, signal transduction, and neurodegenerative disease mechanisms.

Although CDK5 is most abundant in the central nervous system, its expression and activity have also been identified in pancreatic beta cells, skeletal muscle, immune cells, and numerous cancer types. CDK5 influences vesicle trafficking, apoptosis, DNA damage responses, insulin secretion, cell adhesion, and cellular migration through phosphorylation of diverse cytoplasmic and nuclear proteins. The kinase also participates in regulation of actin and microtubule dynamics, helping coordinate neuronal connectivity and intracellular transport. Because of these diverse biological functions, CDK5 Antibody has become an important research tool in neuroscience, cancer biology, metabolism, and cell signaling.

Dysregulated CDK5 activity has been implicated in Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, Huntington's disease, stroke, epilepsy, and multiple cancers including breast, pancreatic, lung, colorectal, and prostate cancer. In neurodegenerative disorders, pathological cleavage of p35 generates p25, resulting in prolonged CDK5 activation, abnormal tau phosphorylation, cytoskeletal disruption, and neuronal death. In cancer, aberrant CDK5 signaling can promote tumor growth, migration, invasion, angiogenesis, and therapeutic resistance. These findings have established CDK5 as both a disease biomarker and a promising therapeutic target, making CDK5 Antibody indispensable for studies of kinase signaling and disease pathogenesis.

NSJ Bioreagents offers highly validated CDK5 Antibody products for reliable detection of endogenous CDK5 in human and animal samples. These antibodies support investigations into neuronal protein kinase signaling, neurodevelopment, synaptic plasticity, cytoskeletal regulation, neurodegeneration, and cancer biology while providing dependable performance across western blotting, immunohistochemistry, immunofluorescence, flow cytometry, immunoprecipitation, and related research applications.

Learn more about proteins involved in neuronal signaling, synaptic plasticity and neurodegenerative disease on our Neuroscience Antibodies page.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the CDK5 Antibody / Neuronal Protein Kinase Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

An amino acid sequence from the C-terminus of human CDK5 (QRISAEEALQHPYFSDFCPP) was used as the immunogen for this CDK5 antibody (100% homologous in human, mouse and rat).

Storage

After reconstitution, the CDK5 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Cyclin Dependent Kinase 5 antibody, CDK5 antibody, Cell Division Protein Kinase 5 antibody, Serine/Threonine Protein Kinase CDK5 antibody, PSSALRE antibody, Tau Kinase antibody

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