ARG55212
anti-CDK5 antibody

Package: 100 µl, 50 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes CDK5
Tested Reactivity	Hu, Ms, Rat
Tested Application	FACS, ICC/IF, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	CDK5
Species	Human
Immunogen	KLH-conjugated synthetic peptide corresponding to aa. 254-289 (C-terminus) of Human CDK5.
Conjugation	Un-conjugated
Alternate Names	Cell division protein kinase 5; TPKII catalytic subunit; LIS7; PSSALRE; Serine/threonine-protein kinase PSSALRE; Cyclin-dependent-like kinase 5; EC 2.7.11.1; Tau protein kinase II catalytic subunit

Application Instructions

Application table

Application	Dilution
FACS	1:25
ICC/IF	1:25
WB	1:1000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

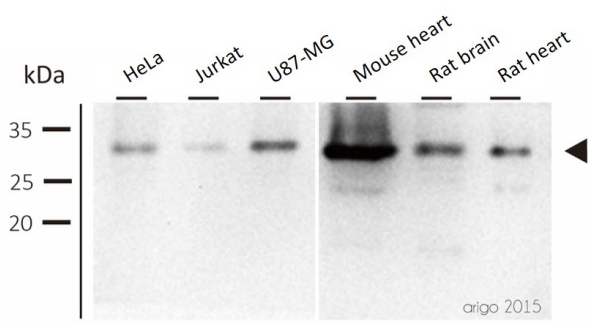
Properties

Form	Liquid
Purification	Purification with Protein A and immunogen peptide.
Buffer	PBS and 0.09% (W/V) Sodium azide
Preservative	0.09% (W/V) Sodium azide
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

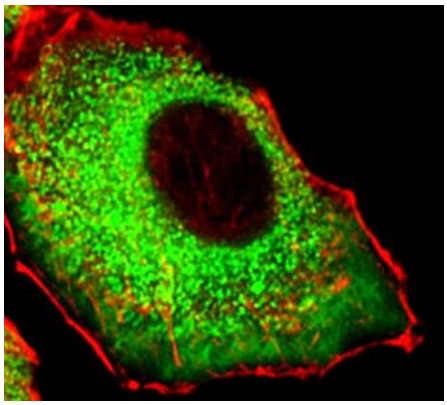
Gene Symbol	CDK5
Gene Full Name	cyclin-dependent kinase 5
Background	This gene encodes a proline-directed serine/threonine kinase that is a member of the cyclin-dependent kinase family of proteins. Unlike other members of the family, the protein encoded by this gene does not directly control cell cycle regulation. Instead the protein, which is predominantly expressed at high levels in mammalian postmitotic central nervous system neurons, functions in diverse processes such as synaptic plasticity and neuronal migration through phosphorylation of proteins required for cytoskeletal organization, endocytosis and exocytosis, and apoptosis. In humans, an allelic variant of the gene that results in undetectable levels of the protein has been associated with lethal autosomal recessive lissencephaly-7. Alternative splicing results in multiple transcript variants. [provided by RefSeq, May 2015]
Function	Proline-directed serine/threonine-protein kinase essential for neuronal cell cycle arrest and differentiation and may be involved in apoptotic cell death in neuronal diseases by triggering abortive cell cycle re-entry. Interacts with D1 and D3-type G1 cyclins. Phosphorylates SRC, NOS3, VIM/vimentin, p35/CDK5R1, MEF2A, SIPA1L1, SH3GLB1, PXN, PAK1, MCAM/MUC18, SEPT5, SYN1, DNM1, AMPH, SYNJ1, CDK16, RAC1, RHOA, CDC42, TONEBP/NFAT5, MAPT/TAU, MAP1B, histone H1, p53/TP53, HDAC1, APEX1, PTK2/FAK1, huntingtin/HTT, ATM, MAP2, NEFH and NEFM. Regulates several neuronal development and physiological processes including neuronal survival, migration and differentiation, axonal and neurite growth, synaptogenesis, oligodendrocyte differentiation, synaptic plasticity and neurotransmission, by phosphorylating key proteins. Activated by interaction with CDK5R1 (p35) and CDK5R2 (p39), especially in post-mitotic neurons, and promotes CDK5R1 (p35) expression in an autostimulation loop. Phosphorylates many downstream substrates such as Rho and Ras family small GTPases (e.g. PAK1, RAC1, RHOA, CDC42) or microtubule-binding proteins (e.g. MAPT/TAU, MAP2, MAP1B), and modulates actin dynamics to regulate neurite growth and/or spine morphogenesis. Phosphorylates also exocytosis associated proteins such as MCAM/MUC18, SEPT5, SYN1, and CDK16/PCTAIRE1 as well as endocytosis associated proteins such as DNM1, AMPH and SYNJ1 at synaptic terminals. [UniProt]
Research Area	Cancer antibody; Cell Biology and Cellular Response antibody; Metabolism antibody; Neuroscience antibody
Calculated Mw	33 kDa
PTM	Phosphorylation on Tyr-15 by ABL1 and FYN, and on Ser-159 by casein kinase 1 promotes kinase activity. By contrast, phosphorylation at Thr-14 inhibits activity. Phosphorylation at Ser-159 is essential for maximal catalytic activity.
Cellular Localization	Cell membrane, Cell projection, Cytoplasm, Membrane, Nucleus, Synapse

Images



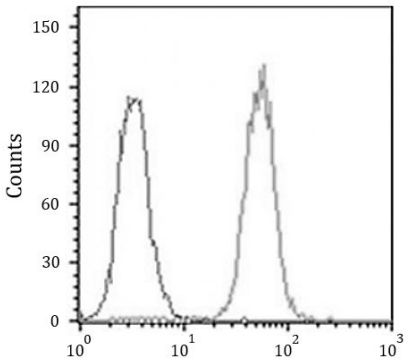
ARG55212 anti-CDK5 antibody WB image

Western blot: 30 µg of HeLa, Jurkat, U87-MG, Mouse heart, Rat brain and Rat heart lysates stained with ARG55212 anti-CDK5 antibody at 1:500 dilution.



ARG55212 anti-CDK5 antibody ICC/IF image

Immunofluorescence: A549 cells stained with ARG55212 anti-CDK5 antibody (green) at 1:25 dilution. Cytoplasmic actin was counterstained with Alexa Fluor® 555 conjugated with Phalloidin (red).



ARG55212 anti-CDK5 antibody FACS image

Flow Cytometry: K562 cells stained with ARG55212 anti-CDK5 antibody (right histogram) at 1:25 dilution or without primary antibodies (left histogram), followed by incubation with Alexa Fluor® 488 labelled secondary antibody.