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Dyrk1B Rabbit pAb

Catalog # AP100246

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q9Y463
Other Accession	Q9Y463
Predicted	Rat, Pig, Human, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	69198
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human MIRK/Dyrk1B
Epitope Specificity	35-130/629
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MNB/DYRK subfamily. Contains 1 protein kinase domain.
SUBUNIT	Dimer. Interacts with DCOHM, MAP2K3/MKK3, RANBP9 and TCF1/HNF1A. Part of a complex consisting of RANBP9, RAN, DYRK1B and COPS5. Interacts with DCAF7.
Post-translational modifications	Autophosphorylated on tyrosine residues. Phosphorylated by MAP kinase. Tyrosine phosphorylation may be required for dimerization.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Dyrk (for dual specificity tyrosine phosphorylation regulated kinase) is the homolog of the Drosophila mnb (minibrain) gene which is required for neurogenesis. Dyrk is a dual-specificity tyrosine kinase and serine/threonine kinase, which is self regulated by tyrosine phosphorylation. Several related mammalian proteins compose the Dyrk family of dual specificity protein kinases, including Dyrk1A, Dyrk1B, Dyrk1C, Dyrk2, Dyrk3, Dyrk4A and Dyrk4B. The Dyrk family members are thought to be involved in the regulation of cellular growth and/or development. Dyrk1B localizes to the nucleus in muscle and testis. Specifically, Dyrk1B plays a critical role in muscle differentiation by regulating motility, transcription, cell cycle progression and cell survival. Dyrk1B is also found is several solid tumors, where it acts as a downstream effector of Rac1 or K-ras to mediate cell survival.

Additional Information

Gene ID	9149
Other Names	AOMS3; MIRK; DYR1B_HUMAN; DYRK1B; Minibrain-related kinase; Mirk protein kinase; 2.7.12.1; DYR1B_MOUSE; dual specificity tyrosine phosphorylation regulated kinase 1B; dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1B; dual specificity

	tyrosine-(Y)-phosphorylation regulated kinase 1B
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	DYRK1B
Synonyms	MIRK
Function	Dual-specificity kinase which possesses both serine/threonine and tyrosine kinase activities. Plays an essential role in ribosomal DNA (rDNA) double-strand break repair and rDNA copy number maintenance (PubMed:33469661). During DNA damage, mediates transcription silencing in part via phosphorylating and enforcing DSB accumulation of the histone methyltransferase EHMT2 (PubMed:32611815). Enhances the transcriptional activity of TCF1/HNF1A and FOXO1. Inhibits epithelial cell migration. Mediates colon carcinoma cell survival in mitogen-poor environments. Inhibits the SHH and WNT1 pathways, thereby enhancing adipogenesis. In addition, promotes expression of the gluconeogenic enzyme glucose-6-phosphatase catalytic subunit 1 (G6PC1).
Cellular Location	Nucleus. Nucleus, nucleolus. Chromosome. Note=Localizes to sites of double-strand breaks (DSBs) following DNA damage.
Tissue Location	Highest expression in skeletal muscle, testis, heart and brain with little expression in colon or lung. Expressed in a variety of tumor cell lines.

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