

DYRK1A Antibody

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP51170

Product Information

Application	WB, ICC, IHC-P
Primary Accession	Q13627
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	85584

Additional Information

Gene ID	1859
Other Names	Dual specificity tyrosine-phosphorylation-regulated kinase 1A, Dual specificity YAK1-related kinase, HP86, Protein kinase minibrain homolog, MNBH, hMNB, DYRK1A, DYRK, MNB, MNBH
Dilution	WB~~1:1000 ICC~~N/A IHC-P~~N/A
Format	0.01M PBS, pH 7.2, 0.09% (W/V) Sodium azide, Glycerol 50%
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	DYRK1A {ECO:0000303 PubMed:25620562, ECO:0000312 HGNC:HGNC:3091}
Function	Dual-specificity kinase which possesses both serine/threonine and tyrosine kinase activities (PubMed: 20981014 , PubMed: 21127067 , PubMed: 23665168 , PubMed: 30773093 , PubMed: 8769099). Exhibits a substrate preference for proline at position P+1 and arginine at position P-3 (PubMed: 23665168). Plays an important role in double-strand breaks (DSBs) repair following DNA damage (PubMed: 31024071). Mechanistically, phosphorylates RNF169 and increases its ability to block accumulation of TP53BP1 at the DSB sites thereby promoting homologous recombination repair (HRR) (PubMed: 30773093). Also acts as a positive regulator of transcription by acting as a CTD kinase that mediates phosphorylation of the CTD (C-terminal domain) of the large subunit of RNA polymerase II (RNAP II) POLR2A (PubMed: 25620562 , PubMed: 29849146). May play a role in a signaling pathway regulating nuclear functions of cell proliferation (PubMed: 14500717). Modulates alternative splicing by phosphorylating the splice factor SRSF6 (By similarity). Has pro-survival function and negatively regulates the apoptotic process (By similarity). Promotes cell survival upon genotoxic stress through

phosphorylation of SIRT1 (By similarity). This in turn inhibits p53/TP53 activity and apoptosis (By similarity). Phosphorylates SEPTIN4, SEPTIN5 and SF3B1 at 'Thr-434' (By similarity).

Cellular Location

Nucleus. Nucleus speckle {ECO:0000250|UniProtKB:Q61214}

Tissue Location

Ubiquitous. Highest levels in skeletal muscle, testis, fetal lung and fetal kidney.

Background

May play a role in a signaling pathway regulating nuclear functions of cell proliferation. Phosphorylates serine, threonine and tyrosine residues in its sequence and in exogenous substrates such as CRY2, FOXO1 and SIRT1.

References

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Guimera J.,et al.Genomics 57:407-418(1999).

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