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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

Song W.J.,et al.Genomics 38:331-339(1996).
Guimera J.,et al.Hum. Mol. Genet. 5:1305-1310(1996).
Shindoh N.,et al.Biochem. Biophys. Res. Commun. 225:92-99(1996).
Ohira M.,et al.Genome Res. 7:47-58(1997).
Guimera J.,et al.Genomics 57:407-418(1999).