

DYRK1A Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP7555c**Specification**

DYRK1A Antibody (Center) Blocking Peptide - Product InformationPrimary Accession [Q13627](#)**DYRK1A Antibody (Center) Blocking Peptide - 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

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP7555c](/product/products/AP7555c) was selected from the Center region of human DYRK1A. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

DYRK1A Antibody (Center) Blocking Peptide - 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:[21127067](http://www.uniprot.org/citations/21127067), PubMed:[8769099](http://www.uniprot.org/citations/8769099), PubMed:[30773093](http://www.uniprot.org/citations/30773093), PubMed:[20981014](http://www.uniprot.org/citations/20981014), PubMed:[23665168](http://www.uniprot.org/citations/23665168)). Exhibits a substrate preference for proline at position P+1 and arginine at position P-3 (PubMed:[23665168](http://www.uniprot.org/citations/23665168)). Plays an important role in double-strand breaks (DSBs) repair following DNA damage (PubMed:[31024071](http://www.uniprot.org/citations/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.

DYRK1A Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

DYRK1A Antibody (Center) Blocking Peptide - Images**DYRK1A Antibody (Center) Blocking Peptide - Background**

DYRK1A is a member of the Dual-specificity tyrosine phosphorylation-regulated kinase (DYRK) family. This member contains a nuclear targeting signal sequence, a protein kinase domain, a leucine zipper motif, and a highly conservative 13-consecutive-histidine repeat. It catalyzes its autophosphorylation on serine/threonine and tyrosine residues. It may play a significant role in a signaling pathway regulating cell proliferation and may be involved in brain development. This gene is a homolog of *Drosophila* *mnf* (minibrain) gene and rat *Dyrk* gene. It is localized in the Down syndrome critical region of chromosome 21, and is considered to be a strong candidate gene for learning defects associated with Down syndrome.

DYRK1A Antibody (Center) Blocking Peptide - References

Adayev,T., Biochemistry 46 (25), 7614-7624 (2007)Chang,H.S., Int. J. Cancer 120 (11), 2377-2385 (2007)Alvarez,M., Mol. Biol. Cell 18 (4), 1167-1178 (2007)Wissing,J., Mol. Cell Proteomics 6 (3), 537-547 (2007)