

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

### Specification

#### **DYRK1A Antibody (Center) Blocking Peptide - Product Information**

Primary 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 <a href=/product/products/AP7555c>AP7555c</a> 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:<a href="http://www.uniprot.org/citations/20981014" target="\_blank">20981014</a>, PubMed:<a href="http://www.uniprot.org/citations/21127067" target="\_blank">21127067</a>, PubMed:<a href="http://www.uniprot.org/citations/23665168" target="\_blank">23665168</a>, PubMed:<a href="http://www.uniprot.org/citations/30773093" target="\_blank">30773093</a>, PubMed:<a href="http://www.uniprot.org/citations/8769099" target="\_blank">8769099</a>). Exhibits a substrate preference for proline at position P+1 and arginine at position P-3 (PubMed:<a href="http://www.uniprot.org/citations/23665168" target="\_blank">23665168</a>). Plays an important role in double-strand breaks (DSBs) repair following DNA damage (PubMed:<a href="http://www.uniprot.org/citations/31024071" target="\_blank">31024071</a>). Mechanistically, phosphorylates RNF169 and increases its ability to block accumulation of TP53BP1

at the DSB sites thereby promoting homologous recombination repair (HRR) (PubMed:<a href="http://www.uniprot.org/citations/30773093" target="\_blank">30773093</a>). 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:<a href="http://www.uniprot.org/citations/25620562" target="\_blank">25620562</a>, PubMed:<a href="http://www.uniprot.org/citations/29849146" target="\_blank">29849146</a>). May play a role in a signaling pathway regulating nuclear functions of cell proliferation (PubMed:<a href="http://www.uniprot.org/citations/14500717" target="\_blank">14500717</a>). 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 mnb (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)