10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

DYRK1A Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7555a

Specification

DYRK1A Antibody (N-term) - Product Information

Application	**WB, IHC-P,E**
Primary Accession	Q13627
Other Accession	Q2TAE3, Q63470, Q61214
Reactivity	**Human, Mouse**
Predicted	**Rat, Xenopus**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**107-136**

DYRK1A Antibody (N-term) - 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
This DYRK1A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 107-136 amino acids from the N-terminal region of human DYRK1A.

Dilution
WB~~1:500-1:2000
IHC-P~~1:50~100
E~~Use at an assay dependent concentration.

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
DYRK1A Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

DYRK1A Antibody (N-term) - 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}

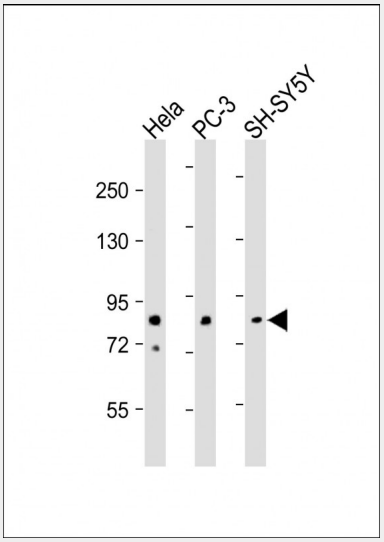
Tissue Location
Ubiquitous. Highest levels in skeletal muscle, testis, fetal lung and fetal kidney.

DYRK1A Antibody (N-term) - Protocols

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

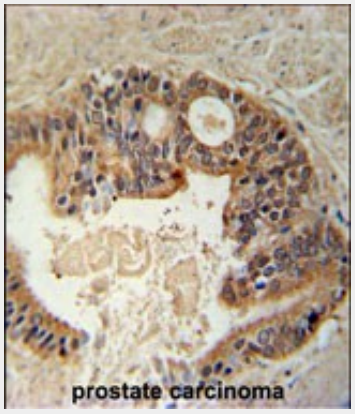
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

DYRK1A Antibody (N-term) - Images



10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

All lanes : Anti-DYRK1A Antibody (N-term) at 1:500-1:2000 dilution Lane 1: Hela whole cell lysate Lane 2: PC-3 whole cell lysate Lane 3: SH-SY5Y whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 86 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



DYRK1A Antiboty (N-term) (Cat.#AP7555a) immunohistochemistry analysis in formalin fixed and paraffin embedded human prostate carcinoma followed by peroxidase conjugation of the secondary antibody and DAB staining. This data demonstrates the use of the DYRK1A Antiboty (N-term) for immunohistochemistry. Clinical relevance has not been evaluated.

DYRK1A Antibody (N-term) - 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. The DYRK1A 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 (N-term) - 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)