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

# DYRK2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5326

## Product Information

| | |
|---|---|
| **Application** | WB |
| **Primary Accession** | Q92630 |
| **Reactivity** | Human |
| **Predicted** | Mouse |
| **Host** | Rabbit |
| **Clonality** | Polyclonal |
| **Calculated MW** | 66652 |
| **Isotype** | Rabbit IgG |
| **Antigen Source** | HUMAN |

## Additional Information

| | |
|---|---|
| **Gene ID** | 8445 |
| **Antigen Region** | 105-135 |
| **Other Names** | DYRK2; Dual specificity tyrosine-phosphorylation-regulated kinase 2 |
| **Dilution** | WB~~1:1000 |
| **Target/Specificity** | This DYRK2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 105-135 amino acids from the N-terminal region of human DYRK2. |
| **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** | DYRK2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures. |

## Protein Information

| | |
|---|---|
| **Name** | DYRK2 {ECO:0000303\|PubMed:9748265, ECO:0000312\|HGNC:HGNC:3093} |
| **Function** | Serine/threonine-protein kinase involved in the regulation of the mitotic cell cycle, cell proliferation, apoptosis, organization of the cytoskeleton and neurite outgrowth (PubMed:11311121, PubMed:12588975, |

PubMed:16511445, PubMed:16611631, PubMed:17349958, PubMed:18599021, PubMed:22307329, PubMed:9748265). Phosphorylates CRMP2/DPYSL2, CRMP4/DPYSL3, DCX, EIF2B5, EIF4EBP1, GLI2, GLI3, GYS1, JUN, MDM2, MYC, NFATC1, p53/TP53, TAU/MAPT and KATNA1 (PubMed:11311121, PubMed:12588975, PubMed:16511445, PubMed:16611631, PubMed:17349958, PubMed:18599021, PubMed:22307329, PubMed:38968120). Can phosphorylate histone H1, histone H3 and histone H2B (in vitro) (PubMed:9748265). Can phosphorylate CARHSP1 (in vitro) (PubMed:15910284). Functions in part via its role in ubiquitin-dependent proteasomal protein degradation (PubMed:9748265). Functions downstream of ATM and phosphorylates p53/TP53 at 'Ser-46', and thereby contributes to the induction of apoptosis in response to DNA damage (PubMed:17349958, PubMed:18599021). Phosphorylates NFATC1, and thereby inhibits its accumulation in the nucleus and its transcription factor activity (PubMed:16511445). May play a general role in the priming of GSK3 substrates (PubMed:11311121, PubMed:16611631). Phosphorylates EIF2B5 at 'Ser-544', enabling its subsequent phosphorylation and inhibition by GSK3B (PubMed:11311121). Likewise, phosphorylation of NFATC1, CRMP2/DPYSL2 and CRMP4/DPYSL3 promotes their subsequent phosphorylation by GSK3B (PubMed:16611631). Inactivates GYS1 by phosphorylation at 'Ser-641', and potentially also a second phosphorylation site, thus regulating glycogen synthesis (PubMed:14593110). Mediates EDVP E3 ligase complex formation and is required for the phosphorylation and subsequent degradation of KATNA1 (PubMed:19287380). Phosphorylates TERT at 'Ser-457', promoting TERT ubiquitination by the EDVP complex (PubMed:23362280). Phosphorylates SIAH2, and thereby increases its ubiquitin ligase activity (PubMed:22878263). Promotes the proteasomal degradation of MYC and JUN, and thereby regulates progress through the mitotic cell cycle and cell proliferation (PubMed:22307329). Acts as a positive regulator of smoothened signaling by mediating phosphorylation of GLI2 and GLI3 in response to smoothened activation, promoting their dissociation from SUFU inhibitor and translocation to the nucleus (PubMed:38968120). Can also acts as a negative regulator of smoothened by catalyzing phosphorylation of GLI2 and GLI3 and promote their proteasomal degradation (PubMed:18455992). Plays a role in cytoskeleton organization and neurite outgrowth via its phosphorylation of DCX and DPYSL2 (By similarity).

**Cellular Location**

Cytoplasm. Nucleus. Note=Translocates into the nucleus following DNA damage.

**Tissue Location**

Testis, after the onset of spermatogenesis.

## Background

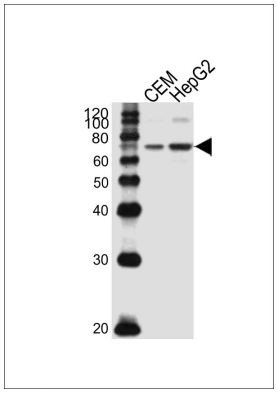
DYRK2 belongs to a family of protein kinases whose members are presumed to be involved in cellular growth and/or development. The family is defined by structural similarity of their kinase domains and their capability to autophosphorylate on tyrosine residues. DYRK2 has demonstrated tyrosine autophosphorylation and catalyzed phosphorylation of histones H3 and H2B in vitro.

## References

Becker, W., et al., J. Biol. Chem. 273(40):25893-25902 (1998).

## Images

Western blot analysis of lysates from CEM,HepG2 cell line




(from left to right), using DYRK2 Antibody (P46)(Cat. #AW5326). AW5326 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.Lysates at 20ug per lane.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.