

#2703
Store at -20°C

DYRK1B Antibody

**Cell Signaling**
TECHNOLOGY®**Orders:** 877-616-CELL (2355)
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cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source:	UniProt ID:	Entrez-Gene Id:
WB, IP	H M R Mk	Endogenous	70-80	Rabbit	#Q9Y463	9149

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity / Sensitivity

DYRK1B Antibody detects endogenous levels of total DYRK1B protein. This antibody detects the three major alternative splicing variants reported for DYRK1B.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxyl terminus of human DYRK1B. Antibodies were purified by protein affinity chromatography.

Background

The DYRK family includes several dual-specificity tyrosine-phosphorylated and regulated kinases capable of phosphorylating proteins at both Tyr and Ser/Thr residues (1). The DYRK family was identified based on homology to the yeast Yak1 (2) and the *Drosophila* minibrain (mnb) kinases (3). Seven mammalian isoforms have been discovered, including DYRK1A, DYRK1B, DYRK1C, DYRK2, DYRK3, DYRK4, and DYRK4B. Differences in substrate specificity, expression, and subcellular localization are seen across the DYRK family (4,5). All DYRK proteins have a Tyr-X-Tyr motif in the catalytic domain activation loop; phosphorylation of the second Tyr residue (e.g. Tyr312 of DYRK1A) is necessary for kinase activity. DYRKs typically autophosphorylate the Tyr residue within their activation loop, but phosphorylate substrates at Ser and Thr residues (1,6).

In contrast to the ubiquitous DYRK1A, DYRK1B exhibits relatively restricted expression with highest levels found in the testis and muscle (7,8). Three major DYRK1B splice variants demonstrate distinct expression patterns and functional properties (9). DYRK1B plays a critical role in myoblast differentiation by affecting cell motility, transcription, cell cycle progression and survival (10,11). In addition, DYRK1B contributes to the survival of certain cancer cells (7,12,13).

Background References

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5. Becker, W. et al. (1998) *J. Biol. Chem.* 273, 25893-25902.
6. Lochhead, P.A. et al. (2005) *Cell* 121, 925-936.
7. Leder, S. et al. (1999) *Biochem. Biophys. Res. Commun.* 254, 474-479.
8. Lee, K. et al. (2000) *Cancer Res.* 60, 3631-3637.
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10. Mercer, S.E. and Friedman, E. (2006) *Cell Biochem. Biophys.* 45, 303-315.
11. Deng, X. et al. (2003) *J. Biol. Chem.* 278, 41347-41354.
12. Deng, X. et al. (2006) *Cancer Res.* 66, 4149-4158.
13. Mercer, S.E. et al. (2006) *Cancer Res.* 66, 5143-5150.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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