Revision 1

Store at -20C

#2703

DYRK1B Antibody

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
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/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	70-80	Rabbit	#Q9Y463	9149

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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 affintiy chromatography.

Background

The DYRK family includes several **d**ual-specificity t**y**rosine-phosphorylated and **r**egulated **k**inases 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

1. Becker, W. and Joost, H.G. (1999) *Prog. Nucleic Acid Res. Mol. Biol.* 62, 1-17.
2. Garrett, S. and Broach, J. (1989) *Genes Dev.* 3, 1336-1348.
3. Tejedor, F. et al. (1995) *Neuron* 14, 287-301.
4. Kentrup, H. et al. (1996) *J. Biol. Chem.* 271, 3488-3495.
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.
9. Leder, S. et al. (2003) *Biochem. J.* 372, 881-888.
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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.