

Dyrk1B (h3): 293T Lysate: sc-158463

BACKGROUND

Dyrk (for dual specificity tyrosine phosphorylation regulated kinase) is the homolog of the *Drosophila mnb* (minibrain) gene which is required for neurogenesis. Dyrk is a dual-specificity tyrosine kinase and serine/threonine kinase, which is self regulated by tyrosine phosphorylation. Several related mammalian proteins compose the Dyrk family of dual specificity protein kinases, including Dyrk1A, Dyrk1B, Dyrk1C, Dyrk2, Dyrk3, Dyrk4A and Dyrk4B. The Dyrk family members are thought to be involved in the regulation of cellular growth and/or development. Dyrk1B localizes to the nucleus in muscle and testis. Specifically, Dyrk1B plays a critical role in muscle differentiation by regulating motility, transcription, cell cycle progression and cell survival. Dyrk1B is also found in several solid tumors, where it acts as a downstream effector of Rac1 or K-ras to mediate cell survival.

REFERENCES

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2. Leder, S., Weber, Y., Altafaj, X., Estivill, X., Joost, H.G. and Becker, W. 1999. Cloning and characterization of Dyrk1B, a novel member of the Dyrk family of protein kinases. *Biochem. Biophys. Res. Commun.* 254: 474-479.
3. Becker, W. and Joost, H.G. 1999. Structural and functional characteristics of Dyrk, a novel subfamily of protein kinases with dual specificity. *Prog. Nucleic Acid Res. Mol. Biol.* 62: 1-17.
4. Jin, K., Lim, S., Mercer, S.E. and Friedman, E. 2005. The survival kinase Mirk/Dyrk1B is activated through Rac1-MKK3 signaling. *J. Biol. Chem.* 280: 42097-42105.
5. Mercer, S.E. and Friedman, E. 2006. Mirk/Dyrk1B: a multifunctional dual-specificity kinase involved in growth arrest, differentiation, and cell survival. *Cell Biochem. Biophys.* 45: 303-315.
6. Jin, K., Park, S., Ewton, D.Z. and Friedman, E. 2007. The survival kinase Mirk/Dyrk1B is a downstream effector of oncogenic K-ras in pancreatic cancer. *Cancer Res.* 67: 7247-7255.
7. Jin, K., Ewton, D.Z., Park, S., Hu, J. and Friedman, E. 2009. Mirk regulates the exit of colon cancer cells from quiescence. *J. Biol. Chem.* 284: 22916-22925.

CHROMOSOMAL LOCATION

Genetic locus: DYRK1B (human) mapping to 19q13.2.

PRODUCT

Dyrk1B (h3): 293T Lysate represents a lysate of human Dyrk1B transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

APPLICATIONS

Dyrk1B (h3): 293T Lysate is suitable as a Western Blotting positive control for human reactive Dyrk1B antibodies. Recommended use: 10-20 µl per lane.

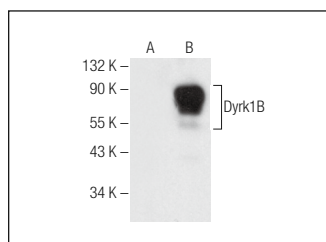
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Dyrk1B (B-9): sc-377137 is recommended as a positive control antibody for Western Blot analysis of enhanced human Dyrk1B expression in Dyrk1B transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

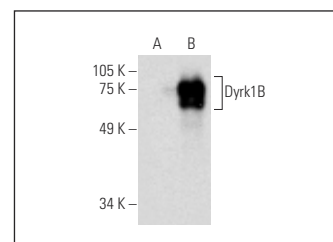
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Dyrk1B (B-9): sc-377137. Western blot analysis of Dyrk1B expression in non-transfected: sc-117752 (A) and human Dyrk1B transfected: sc-158463 (B) 293T whole cell lysates.



Dyrk1B (H-6): sc-390417. Western blot analysis of Dyrk1B expression in non-transfected: sc-117752 (A) and human Dyrk1B transfected: sc-158463 (B) 293T whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.