

Dyrk1B (S-22): sc-130742

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

1. Becker, W., Weber, Y., Wetzels, K., Eirmbter, K., Tejedor, F.J. and Joost, H.G. 1998. Sequence characteristics, subcellular localization, and substrate specificity of DYRK-related kinases, a novel family of dual specificity protein kinases. *J. Biol. Chem.* 273: 25893-25902.
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.* E-published.

CHROMOSOMAL LOCATION

Genetic locus: DYRK1B (human) mapping to 19q13.2; Dyrk1b (mouse) mapping to 7 A3.

SOURCE

Dyrk1B (S-22) is a purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Dyrk1B of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

Dyrk1B (S-22) is recommended for detection of Dyrk1B of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Dyrk1B siRNA (h): sc-77210, Dyrk1B siRNA (m): sc-77211, Dyrk1B shRNA Plasmid (h): sc-77210-SH, Dyrk1B shRNA Plasmid (m): sc-77211-SH, Dyrk1B shRNA (h) Lentiviral Particles: sc-77210-V and Dyrk1B shRNA (m) Lentiviral Particles: sc-77211-V.

Molecular Weight of Dyrk1B: 69/66/65 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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


 MONOS
Satisfation
Guaranteed

Try **Dyrk1B (H-6): sc-390417** or **Dyrk1B (B-9): sc-377137**, our highly recommended monoclonal alternatives to Dyrk1B (S-22).