SANTA CRUZ BIOTECHNOLOGY, INC.

Dyrk1B (H-6): sc-390417

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 is several solid tumors, where it acts as a downstream effector of Rac1 or K-Ras to mediate cell survival.

REFERENCES

1. Becker, W., et al. 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., et al. 1999. Cloning and characterization of DYRK1B, a novel member of the DYRK family of protein kinases. Biochem. Biophys. Res. Commun. 254: 474-479.

CHROMOSOMAL LOCATION

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

SOURCE

Dyrk1B (H-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 501-539 within an internal region of Dyrk1B of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dyrk1B (H-6) is available conjugated to agarose (sc-390417 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390417 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390417 PE), fluorescein (sc-390417 FITC), Alexa Fluor® 488 (sc-390417 AF488), Alexa Fluor® 546 (sc-390417 AF546), Alexa Fluor® 594 (sc-390417 AF594) or Alexa Fluor® 647 (sc-390417 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390417 AF680) or Alexa Fluor® 790 (sc-390417 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390417 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

Dyrk1B (H-6) is recommended for detection of Dyrk1B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

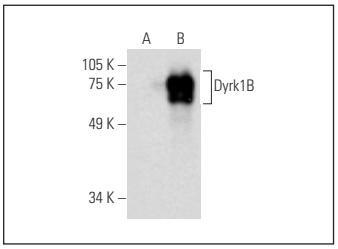
Dyrk1B (H-6) is also recommended for detection of Dyrk1B in additional species, including canine and bovine.

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.

Positive Controls: Dyrk1B (h3): 293T Lysate: sc-158463.

DATA



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.

SELECT PRODUCT CITATIONS

1. Castro, W., et al. 2018. The transcription factor Rfx7 limits metabolism of NK cells and promotes their maintenance and immunity. Nat. Immunol. 19: 809-820.
2. Dong, C., et al. 2020. Screen identifies DYRK1B network as mediator of transcription repression on damaged chromatin. Proc. Natl. Acad. Sci. USA 117: 17019-17030.
3. Dong, C., et al. 2021. A DYRK1B-dependent pathway suppresses rDNA transcription in response to DNA damage. Nucleic Acids Res. 49: 1485-1496.
4. Pramotton, F.M., et al. 2023. DYRK1B inhibition exerts senolytic effects on endothelial cells and rescues endothelial dysfunctions. Mech. Ageing Dev. 213: 111836.

RESEARCH USE

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