

Dyrk4 (E-2): sc-390973

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 itself regulated by tyrosine phosphorylation. Several mammalian Dyrk related proteins have been identified and are thought to compose a family of dual specificity protein kinases. Dyrk family members, including Dyrk1A (originally Dyrk), Dyrk1B, Dyrk1C, Dyrk2, Dyrk3 and Dyrk4, are thought to be involved in diverse cellular functions. Dyrk4 is a testis-specific kinase found mainly in post-meiotic spermatids, but has also been implicated in neuronal differentiation. It exists as two isoforms, named Dyrk4A and Dyrk4B, which share greater than 95% sequence homology. Dyrk4 deficiency has been shown to have no effect on male fertility, indicating a possible redundancy in the spermiogenesis pathway.

REFERENCES

1. Kentrup, H., et al. 1996. Dyrk, a dual specificity protein kinase with unique structural features whose activity is dependent on tyrosine residues between subdomains VII and VIII. *J. Biol. Chem.* 271: 3488-3495.
2. Song, W.J., et al. 1996. Isolation of human and murine homologues of the *Drosophila* minibrain gene: human homologue maps to 21q22.2 in the Down syndrome "critical region". *Genomics* 38: 331-339.
3. Shindoh, N., et al. 1996. Cloning of a human homolog of the *Drosophila* minibrain/rat Dyrk gene from "the Down syndrome critical region" of chromosome 21. *Biochem. Biophys. Res. Commun.* 225: 92-99.
4. 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.

CHROMOSOMAL LOCATION

Genetic locus: DYRK4 (human) mapping to 12p13.32; Dyrk4 (mouse) mapping to 6 F3.

SOURCE

Dyrk4 (E-2) is a mouse monoclonal antibody raised against amino acids 119-219 mapping within an internal region of Dyrk4 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dyrk4 (E-2) is available conjugated to agarose (sc-390973 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390973 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390973 PE), fluorescein (sc-390973 FITC), Alexa Fluor® 488 (sc-390973 AF488), Alexa Fluor® 546 (sc-390973 AF546), Alexa Fluor® 594 (sc-390973 AF594) or Alexa Fluor® 647 (sc-390973 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390973 AF680) or Alexa Fluor® 790 (sc-390973 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Dyrk4 (E-2) is recommended for detection of Dyrk4 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).

Suitable for use as control antibody for Dyrk4 siRNA (h): sc-72231, Dyrk4 siRNA (m): sc-72232, Dyrk4 shRNA Plasmid (h): sc-72231-SH, Dyrk4 shRNA Plasmid (m): sc-72232-SH, Dyrk4 shRNA (h) Lentiviral Particles: sc-72231-V and Dyrk4 shRNA (m) Lentiviral Particles: sc-72232-V.

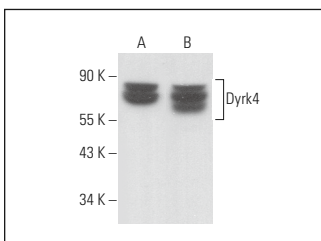
Molecular Weight of Dyrk4: 60 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, F9 cell lysate: sc-2245 or BC₃H1 cell lysate: sc-2299.

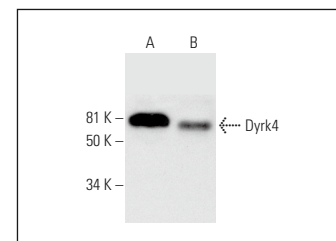
RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Dyrk4 (E-2): sc-390973. Western blot analysis of Dyrk4 expression in F9 (A) and Jurkat (B) whole cell lysates.



Dyrk4 (E-2): sc-390973. Western blot analysis of Dyrk4 expression in F9 (A) and BC₃H1 (B) whole cell lysates.

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 for detailed protocols and support products.