

Dyrk3 (H-80): sc-66868

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, Dyrk4A and Dyrk4B, are thought to be involved in diverse cellular functions. Dyrk1A is a candidate gene that may be involved in Down syndrome, and it has been found to be somewhat overexpressed in Down syndrome. Two isoforms of human fetal brain Dyrk2 exist: a deduced 528 amino acid protein and a protein containing 73 additional amino acids at the amino-terminus. Dyrk3 is strongly expressed in testis, only after the onset of spermatogenesis, and very weakly expressed in spleen and adrenal gland. The genes which encode Dyrk2 and Dyrk3 map to human chromosomes 12 and 1q32.1, respectively.

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: DYRK3 (human) mapping to 1q32.1.

SOURCE

Dyrk3 (H-80) is a rabbit polyclonal antibody raised against amino acids 61-140 mapping near the N-terminus of Dyrk3 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

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.

APPLICATIONS

Dyrk3 (H-80) is recommended for detection of Dyrk3 of human origin by Western Blotting (starting dilution 1:200, 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 Dyrk3 siRNA (h): sc-39010, Dyrk3 shRNA Plasmid (h): sc-39010-SH and Dyrk3 shRNA (h) Lentiviral Particles: sc-39010-V.

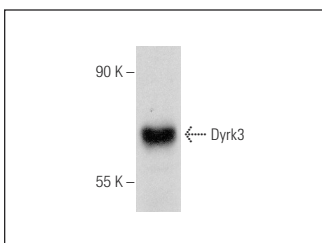
Molecular Weight of Dyrk3: 70 kDa.

Positive Controls: human spleen extract: sc-363779 or Jurkat whole cell lysate: sc-2204.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Dyrk3 (H-80): sc-66868. Western blot analysis of Dyrk3 expression in human spleen tissue extract.

SELECT PRODUCT CITATIONS

1. Hasegawa, K., et al. 2012. Wnt signaling orchestration with a small molecule DYRK inhibitor provides long-term xeno-free human pluripotent cell expansion. *Stem Cells Transl. Med.* 1: 18-28.

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Try **Dyrk3 (H-11): sc-390532**, our highly recommended monoclonal alternative to Dyrk3 (H-80).