

# Dyrk3 (H-11): sc-390532

## 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. 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.

## CHROMOSOMAL LOCATION

Genetic locus: DYRK3 (human) mapping to 1q32.1; Dyrk3 (mouse) mapping to 1 E4.

## SOURCE

Dyrk3 (H-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 188-210 of Dyrk3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Dyrk3 (H-11) is available conjugated to agarose (sc-390532 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390532 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390532 PE), fluorescein (sc-390532 FITC), Alexa Fluor® 488 (sc-390532 AF488), Alexa Fluor® 546 (sc-390532 AF546), Alexa Fluor® 594 (sc-390532 AF594) or Alexa Fluor® 647 (sc-390532 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390532 AF680) or Alexa Fluor® 790 (sc-390532 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390532 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## STORAGE

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

## APPLICATIONS

Dyrk3 (H-11) is recommended for detection of Dyrk3 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 Dyrk3 siRNA (h): sc-39010, Dyrk3 siRNA (m): sc-44589, Dyrk3 shRNA Plasmid (h): sc-39010-SH, Dyrk3 shRNA Plasmid (m): sc-44589-SH, Dyrk3 shRNA (h) Lentiviral Particles: sc-39010-V and Dyrk3 shRNA (m) Lentiviral Particles: sc-44589-V.

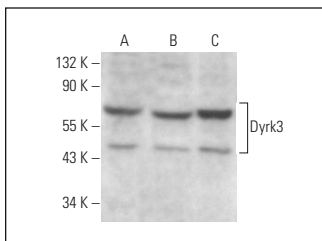
Molecular Weight of Dyrk3: 70 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, M1 whole cell lysate: sc-364782 or human spleen extract: sc-363779.

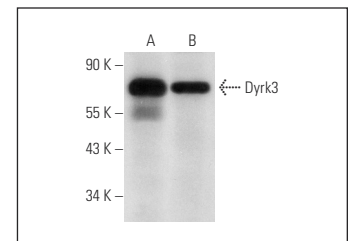
## RECOMMENDED SUPPORT REAGENTS

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



Dyrk3 (H-11): sc-390532. Western blot analysis of Dyrk3 expression in Jurkat (A), K-562 (B) and M1 (C) whole cell lysates.



Dyrk3 (H-11): sc-390532. Western blot analysis of Dyrk3 expression in human spleen tissue extract (A) and Jurkat whole cell lysate (B).

## SELECT PRODUCT CITATIONS

1. Singh, R., et al. 2019. DYRK1B regulates Hedgehog-induced microtubule acetylation. *Cell. Mol. Life Sci.* 76: 193-207.
2. Ivanova, E., et al. 2021. DYRK3 contributes to differentiation and hypoxic control in neuroblastoma. *Biochem. Biophys. Res. Commun.* 567: 215-221.
3. Dolliver, S.M., et al. 2022. Nsp1 proteins of human coronaviruses HCoV-OC43 and SARS-CoV2 inhibit stress granule formation. *PLoS Pathog.* 18: e1011041.

## RESEARCH USE

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