

#14053 Store at -20C

Phospho-Doublecortin (Ser334) (D11B10) Rabbit mAb



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IF-F, IF-IC	H M R	Endogenous	45	Rabbit IgG	#O88809	13193

Product Usage Information

Application

Western Blotting
Immunofluorescence (Frozen)
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:200
1:1600

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

Specificity / Sensitivity

Phospho-Doublecortin (Ser334) (D11B10) Rabbit mAb recognizes endogenous levels of doublecortin protein only when phosphorylated at Ser334. Amino acid Ser334 of mouse doublecortin corresponds to Ser415 of human doublecortin. Proteins of unknown origin may be detected around 90 kDa.

Species predicted to react based on 100% sequence homology:

Human

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser334 of mouse doublecortin protein.

Background

Mutations in doublecortin (*DCX*) cause Lissencephaly (smooth brain), a neuronal migration disorder characterized by epilepsy and mental retardation (1). Doublecortin is a microtubule-associated protein that stabilizes and bundles microtubules. A conserved doublecortin domain mediates the interaction with microtubules, and interestingly most missense mutations cluster in this domain (2). Kinases JNK, CDK5, and PKA phosphorylate doublecortin. JNK phosphorylates Thr321, Thr331, and Ser334 while PKA phosphorylates Ser47 and CDK5 phosphorylates Ser297 (3-5). Phosphorylation of Ser297 lowers the affinity of doublecortin to microtubules. Furthermore, mutations of Ser297 result in migration defects (5).

Doublecortin phosphorylated at Ser334 is enriched in growth cones and affects neurite outgrowth and neuronal migration (3).

Background References

1. Gleeson, J.G. et al. (1998) *Cell* 92, 63-72.
2. Reiner, O. et al. (2004) *Cell Cycle* 3, 747-51.
3. Gdalyahu, A. et al. (2004) *EMBO J* 23, 823-32.
4. Schaar, B.T. et al. (2004) *Neuron* 41, 203-13.
5. Tanaka, T. et al. (2004) *Neuron* 41, 215-27.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IF-F:** Immunofluorescence (Frozen)
IF-IC: Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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