

Doublecortin (E6O6A) Rabbit mAb

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R	Endogenous	45	Rabbit IgG	#O43602	1641

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

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 Source / Purification

Doublecortin (E6O6A) Rabbit mAb recognizes endogenous levels of total doublecortin protein.

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human 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).

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

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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