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## Doublecortin Antibody

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

<b>Applications:</b> IF-F	<b>Reactivity:</b> M	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #O43602	<b>Entrez-Gene Id:</b> 1641
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<b>Product Usage Information</b>	<b>Application</b> Immunofluorescence (Frozen)	<b>Dilution</b> 1:1600
<b>Storage</b>	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.	
<b>Specificity/Sensitivity</b>	Doublecortin Antibody detects endogenous levels of total doublecortin protein. Nonspecific labeling of fixed frozen mouse pancreas, colon, small intestine, retina, and cell bodies in adult brain are observed by immunofluorescence.	
<b>Source / Purification</b>	Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to human doublecortin. Antibodies are purified by protein A and peptide affinity chromatography.	
<b>Background</b>	Mutations in doublecortin ( <i>DCX</i> ) 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).	
<b>Background References</b>	<ol style="list-style-type: none"> <li>1. Gleeson, J.G. et al. (1998) <i>Cell</i> 92, 63-72.</li> <li>2. Reiner, O. et al. (2004) <i>Cell Cycle</i> 3, 747-51.</li> <li>3. Gdalyahu, A. et al. (2004) <i>EMBO J</i> 23, 823-32.</li> <li>4. Schaar, B.T. et al. (2004) <i>Neuron</i> 41, 203-13.</li> <li>5. Tanaka, T. et al. (2004) <i>Neuron</i> 41, 215-27.</li> </ol>	

<b>Species Reactivity</b>	Species reactivity is determined by testing in at least one approved application (e.g., western blot).
<b>Applications Key</b>	<b>IF-F:</b> Immunofluorescence (Frozen)
<b>Cross-Reactivity Key</b>	<b>M:</b> Mouse
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