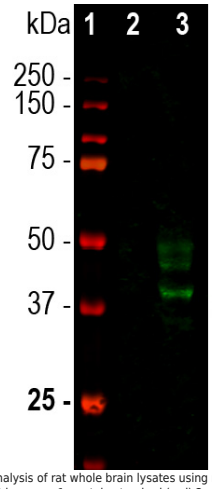
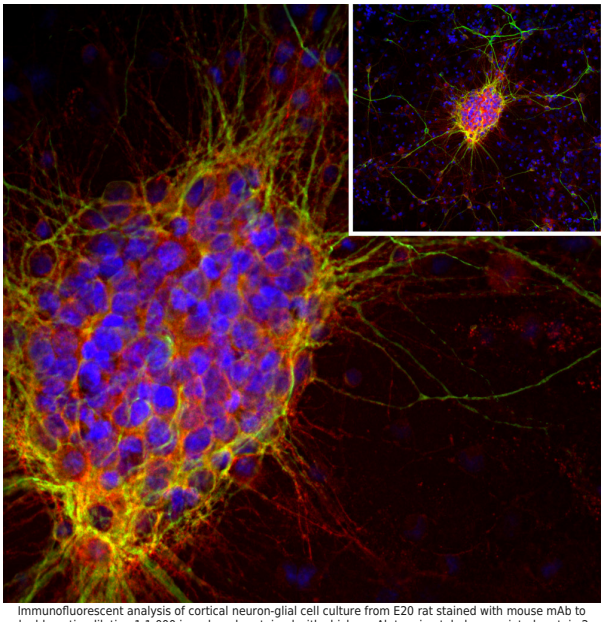
Product name:	Doublecortin Mouse Monoclonal Antibody
Cat number:	MAB-94065
Conjugate:	Unconjugated
Size:	100 ug
Clone:	7D1
Concentration:	1mg/ml
Host:	Mouse
Isotype:	IgG2a
Immunogen:	Recombinant full length human Lis-A isoform of doublecortin expressed in and purified from E. coli.
Reactivity:	Human, Mouse, Rat
Applications:	Western Blot: 1:1,000 Immunofluorescence: 1:1,000 Immunocytochemistry: 1:1,000 Immunohistochemistry: 1:1,000
Molecular Weight:	35-45kDa
Purification:	Purified
Form:	Liquid
Buffer:	Purified antibody at 1mg/mL in 50% PBS, 50% glycerol plus 5mM NaN3
Storage:	Store at 4°C for short term, for longer term at -20°C
Background:	Doublecortin was originally discovered since defects in the gene encoding it are causative of an X-linked lissencephaly, a rare group of brain malformations resulting in a smooth cerebral cortex caused by aberrant neuronal migration during development. The name doublecortin comes from the unusual layering of the cortex in this form of lissencephaly, which appears to have a second deep cortical layer of neurons. The doublecortin protein appears to function as a microtubule and actin binding protein expressed in developing neuroblasts as they become post-mitotic, but is lost as neurons mature. Loss of doublecortin causes defects in neuronal migration during development, so that many neurons fail to migrate into the cortex but remain close to the ventricular germinal zones. Antibodies to doublecortin are useful to identify neuronal stem cells and developing neurons in sections and in tissue culture, and to monitor neurogenesis. Studies of neuroblastoma, the most common form of extracranial solid tumor in childhood, show that levels of doublecortin mRNA are associated with poor patient outcome . The Doublecortin antibody was made against full length recombinant human doublecortin expressed in and purified from E. coli.



Western blot analysis of rat whole brain lysates using mouse mAb to doublecortin, dilution 1:1,000 in green: 1. protein standard (red) 2. adult rat brain, 3. embryonic E20 rat brain Strong bands at 40kDa and 45kDa correspond to the doublecortin protein, detected only in the developing brain.



Immunofluorescent analysis of cortical neuron-glial cell culture from E20 rat stained with mouse mAb to doublecortin, dilution 1:1,000 in red, and costained with chicken pAb to microtubule associated protein 2 (MAP2), dilution 1:10,000 in green. The blue is DAPI staining of nuclear DNA. The doublecortin antibody reveals strong cytoplasmic staining in a population of small developing neurons and their processes, while the MAP2 antibody stains dendrites and perikarya of mature neurons. Doublecortin antibody is an excellent marker of early developing neuronal cells.