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Product Information

Anti-DCDC2
produced in rabbit, affinity isolated antibody

Product Number **D2945**

Product Description

Anti-DCDC2 is produced in rabbit using as the immunogen a synthetic peptide corresponding to a fragment of human DCDC2 (GeneID: 51473), conjugated to KLH. The corresponding sequence is highly conserved in rat DCDC2. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-DCDC2 specifically recognizes human DCDC2. The antibody may be used in various immunochemical techniques including immunoblotting (~55 kDa and ~70 kDa). Detection of the DCDC2 bands by immunoblotting is specifically inhibited by the DCDC2 immunizing peptide.

Dyslexia, also known as reading disability (RD), is a complex developmental behavioral disorder characterized by severe difficulties in learning to read and spell, affecting 5-12% of school-aged children. Abnormalities in the pattern of cortical neuronal migration and maturation have been linked to developmental dyslexia. In recent years, linkage studies have identified chromosomal regions likely to contain genes contributing to dyslexia.[1-2] Of these loci, DYX2 on chromosome 6p21-p22 is considered one of the most promising candidate regions reported to be linked to dyslexia. Four candidate dyslexia susceptibility genes (CDSGs) have been reported including DCDC2, DYX1C1, ROBO1 and DLX2/KIAA0319, involved in neuronal migration and other developmental processes.[1] DCDC2 (also known as DCDC2A, RU2, RU2S), belongs to the doublecortin (DCX) superfamily and contains two doublecortin domains. The DCX domain binds tubulin and enhances microtubule polymerization and is involved in cortical neuronal migration. Several SNPs within the DCDC2 gene have been associated with dyslexia.[3,4] DCDC2 is expressed in fetal and adult CNS and has been shown to modulate neuronal development in the brain. Knockdown of DCDC2 expression in the rat developing cortex has been shown to result in neuronal migration disorders similar to those seen in the dyslexic brain.[3,5]

Reagent

Supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide as a preservative.

Antibody concentration: ~1.5 mg/mL

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

For continuous use, store at 2–8 °C for up to one month. For extended storage, freeze in working aliquots at –20 °C. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

Immunoblotting: a working concentration of 1-2 μg/mL is recommended using a HEK-293T cell lysate expressing human DCDC2.

Note: In order to obtain best results in various techniques and preparations, it is recommended to determine optimal working dilutions by titration.

References

1. McGrath, L.M. et al., *Trends Mol. Med.,* **12**, 333-341 (2006).
2. Galaburda, A.M. et al., *Nature Neurosci.,* **9**, 1213-1217 (2006).
3. Meng, H. et al., *Proc. Natl. Acad. Sci. USA,* **102**, 17053-17058 (2005).
4. Schumacher, J. et al., *Am. J. Human Genet.*, **78**, 52-62 (2006).
5. Burbridge, T.J. et al., *Neurosci.*, **152**, 723-733 (2008).

VS,ER,TD,KAA,PHC,MAM 04/19-1