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OLIG2 Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1519a

Product Information

Application	WB, IHC, ICC, E
Primary Accession	Q13516
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	1G11
Isotype	IgG1
Calculated MW	32385
Description	This gene encodes a basic helix-loop-helix transcription factor which is expressed in oligodendroglial tumors of the brain. The protein is an essential regulator of ventral neuroectodermal progenitor cell fate. The gene is involved in a chromosomal translocation t(14;21)(q11.2;q22) associated with T-cell acute lymphoblastic leukemia. Its chromosomal location is within a region of chromosome 21 which has been suggested to play a role in learning deficits associated with Down syndrome. Tissue specificity: Expressed in the brain, in oligodendrocytes. Strongly expressed in oligodendrogliomas, while expression is weak to moderate in astrocytomas. Expression in glioblastomas highly variable.
Immunogen	Purified recombinant fragment of human OLIG2 expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	10215
Other Names	Oligodendrocyte transcription factor 2, Oligo2, Class B basic helix-loop-helix protein 1, bHLHb1, Class E basic helix-loop-helix protein 19, bHLHe19, Protein kinase C-binding protein 2, Protein kinase C-binding protein RACK17, OLIG2, BHLHB1, BHLHE19, PRKCBP2, RACK17
Dilution	WB~~1/500 - 1/2000 IHC~~1/500 - 1/2000 ICC~~N/A E~~1/10000
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	OLIG2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	OLIG2
Synonyms	BHLHB1, BHLHE19, PRKCBP2, RACK17
Function	Required for oligodendrocyte and motor neuron specification in the spinal cord, as well as for the development of somatic motor neurons in the hindbrain. Works in coordination with ZNF488 to promote oligodendrocyte differentiation. Orchestrates progenitor cell fates during cortical gliogenesis and gliomagenesis. In cooperation with OLIG2, activates oligodendrocyte precursor cells (OPCs) formation while repressing the generation of olfactory bulb interneuron intermediate progenitors (OBIN) generation through transcriptional regulation of GSX2. Mechanistically, binds and silences multiple conserved enhancer elements of GSX2. Cooperates with OLIG1 to establish the pMN domain of the embryonic neural tube. Antagonist of V2 interneuron and of NKX2-2- induced V3 interneuron development.
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00981}. Cytoplasm. Note=The NLS contained in the bHLH domain could be masked in the native form and translocation to the nucleus could be mediated by interaction either with class E bHLH partner protein or with NKX2-2.
Tissue Location	Expressed in the brain, in oligodendrocytes. Strongly expressed in oligodendrogliomas, while expression is weak to moderate in astrocytomas. Expression in glioblastomas highly variable

References

1. Am J Med Genet B Neuropsychiatr Genet. 2008 Jun 5;147B(4):538-9. 2. Virchows Arch. 2007 May;450(5):575-84.

Images

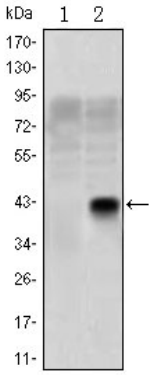


Figure 1: Western blot analysis using OLIG2 mAb against HEK293 (1) and OLIG2(AA: 1-122)-hIgGFc transfected HEK293 (2) cell lysate.

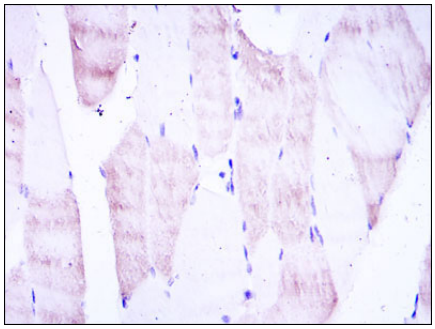
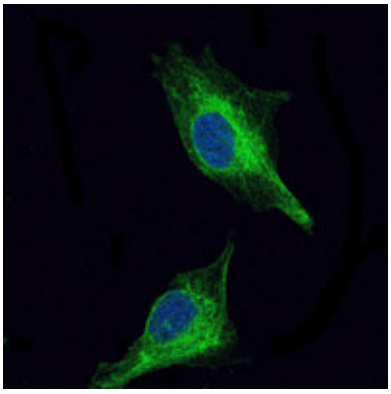


Figure 2: Immunohistochemical analysis of paraffin-embedded muscle tissues using OLIG2 mouse mAb with DAB staining.

Figure 3: Immunofluorescence analysis of U251 cells using OLIG2 mouse mAb (green). Blue: DRAQ5 fluorescent DNA



dye.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.