LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Olig2 Protein
Catalog Number: hTF-0558
Manufacturer: LD Biopharma, Inc.

Introduction

Human oligodendrocyte transcription factor 2 (Olig2) is the basic helix-loop-helix transcription factors, 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. Recent data demonstrated that combination Olig2 with Nogo_A protein as diagnostic biomarker may benefits in differentiating oligodendrogliomas from other gliomas.

Full-length recombinant human Olig2 cDNA (323 aa) was constructed with codon optimization with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein was expressed in E. coli as inclusion bodies, refolded using our unique "temperature shift inclusion body refolding" technology and chromatographically purified.

Gene Symbol:	Olig2 (BHLHB1; bHLHe19; PRKCBP2; RACK17)
Accession Number:	NP_005797.1
Species:	Human
Size:	50 µg / Vial
Composition:	0.5 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, arginine, DTT and Glycerol.
Storage:	In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

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Otero,J.J., et al.,*OLIG2 is differentially expressed in pediatric astrocytic and in ependymal neoplasms*. J. Neurooncol. 104 (2), 423-438 (2011)

Panman,L., et al., *Transcription factor-induced lineage selection of stem-cell-derived neural progenitor cells*. Cell Stem Cell 8 (6), 663-675 (2011)

Fukuda,S., et al., *Negative regulatory effect of an oligodendrocytic bHLH factor OLIG2 on the astrocytic differentiation pathway*. Cell Death Differ. 11 (2), 196-202 (2004)

Applications

1. May be used for in vitro oligodendrocytes differentiation and myelin regeneration regulation study with intracellular delivery of this protein.
2. May be used as specific substate protein for kinase or ubiquitin (Sumo pathway) related enzyme functional screening assay development.
3. Potential biomarker protein for diagnostic developments to differentiate oligodendrogliomas from other gliomas.
4. May be used as antigen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHHGNLYFQGGEFDSDASLVSSRPSSPEPDDLFLPARSKGSSGSAFTG
GTVSSSTPSDCPPELSAELRGAMGSAGAHPGDKLGGSGFKSSSSSTSSSTSSAAASSTKKDKKQ
MTEPELQQLRLKINSRERKRMHDLNIAMDGLREVMPYAHGPSVRKLSKIATLLLARNYILMLTN
SLEEMKRLVSEIYGGHHAGFHPSACGGLAHSAPLPAATAHPAAAAHAAHHPAVHHPILPPAAAA
AAAAAAAAAVSSASLPGSGLPSVGSIRPPHGLLKSPSAAAAAPLGGGGGGSGASGGFQHWGGMP
CPCSMCQVPPPHHHVSAMGAGSLPRLTSDAK