



LD Biopharma, Inc.
9924 Mesa Rim Road Suite B
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human Brn2-11R Protein
Catalog Number: hTF-0106
Manufacturer: LD Biopharma, Inc.

Introduction

Expression of the class III POU gene *brn-2*, encoding the Brn-2/N-Oct-3 transcription factor, was first identified in mouse brain and is found to be widely expressed in the developing mammalian central nervous system. It has been shown that *brn-2* is required for proper retinoic acid induced in vitro differentiation of P19 embryonic carcinoma cells to neural cells and is found predominantly expressed in postmitotic neurons of the mouse neocortex. Recent data demonstrated Brn2 plays a major role in trans-differentiation of human fibroblast cell into neuronal cells.

Recombinant human Brn2 protein was constructed with C-terminal tag of 11 arginine domain, which efficiently delivery protein intracellularly. This protein was expressed in *E. coli* as inclusion bodies, refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified. Incubating this protein in culture mediums at concentration of 2-8 $\mu\text{g/ml}$ may be used for studying of human neuronal cell trans-differentiation. This recombinant protein cDNA was derived from direct RT-PCR amplification of human brain tissue, which DNA sequence confirm that 18 aa QQQQQQQQQQQQQQQQQQ was deleted when compared with NP_005595 protein sequence: (aa 68 – 85).

Gene Symbol: Brn2 (POUsF2)
Accession Number: NP_005595
Species: Human
Size: 50 μg / Vial
Composition: 1.0 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 -20°C for long term storage. Product is stable at 4°C for at least 7 days.



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Key References

Thomas Vierbuchen et al. *Direct conversion of fibroblasts to functional neurons by defined factors*. NATURE. Vol 463/25: 1035 – 1038 (2010)

Hongyan Zhou, et al. *Generation of induced pluripotent stem cells using recombinant protein*. Cell Stem Cell. Vol 4. Issue 5: 381-384 (2009)

Vladimir Torchilin. *Intracellular delivery of protein and peptide therapeutics*. Drug Discovery Today: Technologies. 01.002 (2009)

Applications

1. Protein transduction for study of Neuronal cell trans-differentiation in vitro.
2. Active recombinant protein, may be used for ELISA based DNA/Protein binding assay.
3. As specific protein substrate for kinase assay.
4. Immunogen for specific antibody production.

Quality Control

1. Purity: > 90% by SDS-PAGE.
2. DNA binding assay: Not tested yet.

Recombinant Protein Sequence

29aa_Tag_GEFATAASNHYSLTSSASIVHAEPGGMQQGAGGYREAHSLVQGDY GALHSNGH
PLSHAHQWITALSHGGGDGSPWST SPLGQPDIKPSVVVQQGGRGDELHGPGALQQQHQQQQQQ
QQQQQQQQQQQQQRPPHLVHHAANHHPPGAWRSAAAAAHLPPSMGASNGLLYSQPSFTVNG
MLGAGGQPAGLHHHGLRDAHDEPHHADHHPHSHPHQQPPPPPPQGP PGHPGAHHDPHSDED
TPTSDDLEQFAKQFKQRRIKLGFTQADVGLALGTLYGNVFSQTTICRFEALQLSFKNMCKLKPL
LNKWLEEADSSSGSPTSIDKIAAQGRKRKRKRTSIEVSVKGALESHFLKCPKPSAQEITSLADSL
QLEKEVVRVWFCNRRQKEKRMTPPGGTLPGAEDVYGGSRDTPPHHGVQTPVQLEESGGGGSPGR
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