



LD Biopharma, Inc.
9924 Mesa Rim Road, Suite B
San Diego, CA 92121
Tel: 858-876-8266
<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human NR2E1 Protein
Catalog Number: hTF-0455
Manufacturer: LD Biopharma, Inc.

Introduction

Human nuclear receptor subfamily 2 group E member 1 (NR2E1) is a transcription factor which binds DNA as a monomer to hormone response elements (HRE) containing an extended core motif half-site sequence 5'-AAGGTCA-3' in which the 5' flanking nucleotides participate in determining receptor specificity. NR2E1 may be required to pattern anterior brain differentiation, involved in the regulation of retinal development and essential for vision. During retinogenesis, regulates PTEN-Cyclin D expression via binding to the promoter region of PTEN and suppressing its activity. It may be involved in retinoic acid receptor (RAR) regulation in retinal cells.

Full-length human NR2E1 cDNA (384aa) was constructed with codon optimization and expressed 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, and refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

Gene Symbol: NR2E1 (TLL; TLX; XTLL)
Accession Number: NP_003260
Species: Human
Size: 20 µg / Vial
Composition: 0.1 mg/ml, sterile-filtered, in 20 mM pH 8.0 Tris-HCl Buffer, with proprietary formulation of NaCl, KCl, EDTA, Sucrose and DTT.
Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 7 days.

Key References

Chan CM, et al., *A signature motif mediating selective interactions of BCL11A with the NR2E/F subfamily of orphan nuclear receptors*. Nucleic Acids Res. 41 (21), 9663-9679 (2013)



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Ryan SM, et al., *Negative regulation of TLX by IL-1beta correlates with an inhibition of adult hippocampal neural precursor cell proliferation.* Brain Behav. Immun. 33, 7-13 (2013)

Zou Y, et al., *The nuclear receptor TLX is required for gliomagenesis within the adult neurogenic niche.* Mol. Cell. Biol. 32 (23), 4811-4820 (2012)

Estruch SB, et al., *The oncoprotein BCL11A binds to orphan nuclear receptor TLX and potentiates its transrepressive function.* PLoS ONE 7 (6), E37963 (2012)

Applications

1. May be used for in vitro NR2E1 mediated anterior brain & retinal cell's differentiation pathway regulations study by intracellular delivery of this protein with "ProFectin" reagent.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for protein-protein interaction mapping.
4. As immunogen for specific antibody production.

Quality Control

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

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFSKPAGSTSRILDIPCKVCGDRSSGKHYGVYACDGC
SGFFKRSIRRNRITYVCKSGNQGGCPVDKTHRNRQCRACRLKKCLEVNMNKDAVQHERGPRTSTIR
KQVALYFRGHKEENGAAAHFPSAALPAPAFFTAVTQLEPHGLELAAVSTTPERQTLVSLAQPTP
KYPHEVNGTPMYLYEVATESVCE SAARLLFMSIKWAKSVPAFSTLSLQDQLMLLED AWRELFVL
GIAQWAI PVDANTLLAVSGMNGDNTDSQKLNKI ISEIQALQEVARFRQLRLDATEFACLKCI V
TFKAVPTHSGSELRSFRNAAAIAALQDEAQLTLNSYIHTRYPTQPCRFGKLLLLLLPALRSISPS
TIEEVFFKKTIGNVPI TRLLSDMYKSSDI