



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human NFE2-11R Protein
Catalog Number: hTF-1037
Manufacturer: LD Biopharma, Inc.

Introduction

Human Transcription factor NF-E2 45 kD subunit (NFE2) is expressed in hematopoietic stem cells (HSCs) as well as in the myeloid, erythroid, and megakaryocytic lineages and acts as an epigenetic transcriptional regulator and chromatin modifier. At the β -globin locus, NFE2 initiates chromatin remodeling and is required for the recruitment of both the MLL2 and the G9a histone methyltransferase complexes. This protein also recruits both histone acetyltransferases and histone deacetylases (HDACs), thereby modulating histone acetylation. It has been demonstrated that over-expression of NFE2 in HSCs *ex vivo* delays their erythroid and megakaryocytic maturation, causing the accumulation of excess numbers of mature progeny from a single HSC.

Full-length human NFE2 cDNA (373aa, derived from BC005044) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal and 11 arginine domain (11R) at C-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: NFE2 (NF-E2; p45)
Accession Number: NP_006154
Species: Human
Size: 50 μ g / 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

Kashif, M., et al., *Nuclear factor erythroid-derived 2 (Nfe2) regulates JunD DNA-binding activity via acetylation: a novel mechanism regulating trophoblast differentiation*. J. Biol. Chem. 287 (8), 5400-5411 (2012)

Kaufmann, K.B., et al., *A novel murine model of myeloproliferative disorders generated by overexpression of the transcription factor NF-E2*. J. Exp. Med. 209 (1), 35-50 (2012)

Igarashi, K., et al., *Regulation of transcription by dimerization of erythroid factor NF-E2 p45 with small Maf proteins*. Nature 367 (6463), 568-572 (1994)

Applications

1. May be used for in vitro human erythroid cell differentiation regulations study with intracellular protein delivery of this protein.
2. May be used as specific substrate protein for kinase and ubiquitin related enzyme functional screening assays.
3. May be used for mapping NEF2 protein-protein interaction.
4. May be used as antigen for specific antibody production.

Quality Control

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

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHGNLYFQGGEFSPCPPQQSRNRVIQLSTSELGEMELTWQEIMSITE
LQGLNAPSEPSFEPQAPAPYLGPPPPTYCPCSIHPDSGFPLPPPPYELPASTSHVDPDPYSYG
NMAIPVSKPLSLGLLSEPLQDPLALLDIGLPAGPPKPQEDPESDGLSLNYSDAESLELEGTE
AGRRRSEYVEMYVEYPYSLMPNSLAHSNYTLPAEETPLALEPSSGPVRAKPTARGEAGSRDER
RALAMKIPFPTDKIVNLPVDDFNELLARYPLTESQLALVRDIRRRGKNKVAAQNCRRKLETIV
QLERELERLTNERERLLRARGEADRTLEV MRQQLT ELYRDI FQH LRDESGNSYSPEEYALQQAA
DGTIFLVPRGTKMEATDLEESGGGGSPGRRRRRRRRRR