



LD Biopharma, Inc.
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<http://www.ldbiopharma.com>

- PRODUCT DATA SHEET -

Name of Product: Recombinant Human ERG-11R Protein
Catalog Number: hTF-1240
Manufacturer: LD Biopharma, Inc.

Introduction

Human transcription regulator ERG gene encodes a member of the erythroblast transformation-specific (ETS) family of transcription factors. All members of this family are key regulators of embryonic development, cell proliferation, differentiation, angiogenesis, inflammation, and apoptosis. The protein encoded by this gene is mainly expressed in the nucleus. It contains an ETS DNA-binding domain and a PNT (pointed) domain, which is implicated in the self-association of chimeric oncoproteins. This protein is required for platelet adhesion to the subendothelium, inducing vascular cell remodeling. It also regulates hematopoiesis, and the differentiation and maturation of megakaryocytic cells. This gene is involved in chromosomal translocations, resulting in different fusion gene products, such as TMPSSR2-ERG and NDRG1-ERG in prostate cancer, EWS-ERG in Ewing's sarcoma and FUS-ERG in acute myeloid leukemia. Multiple alternatively spliced transcript variants encoding different isoforms have been identified.

Full-length of human ERG cDNA (479aa, Isoform-I, which derived from BC040168) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (27aa) fusion at its N-terminal and 11R tag 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: ERG (erg-3, p55)
Accession Number: NP_891548
Species: Human
Size: 20 µg / Vial
Composition: 0.2 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

Sergei Doulatov, et al., *Induction of multipotential hematopoietic progenitors from human pluripotent stem cells via respecification of lineage-restricted precursors*. Cell Stem Cell 13, 459-470. (2013)

Hongyan Zhou, et al. *Generation of Induced Pluripotent Stem Cells Using Recombinant Proteins*. Cell Stem Cell. 4: 381-384. (2009)

Nagle,R.B., et al., *ERG overexpression and PTEN status predict capsular penetration in prostate carcinoma*. Prostate 73 (11), 1233-1240 (2013)

Applications

1. May be used for in vitro ERG mediated HSC differentiation regulation study using either 11R mediated or “ProFectin” based intracellular delivery of this protein.
2. May be used as specific protein substrate for kinase and ubiquitin (Sumo pathway) related enzyme functional screening assays.
3. May be used for EGR protein-protein interaction mapping.
4. Potential diagnostic biomarker protein for monitoring various cancer treatment outcomes.
5. As immunogen for specific antibody production.

Quality Control

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

Recombinant Protein Sequence

MASMTGGQQMGRGHHHHHENLYFQGSASTIKEALSVVSEDQSLFECAYGTPHLAKTEMTASSS
SDYGQTSKMSPRVPQQDWLSQPPARVTIKMECNPSQVNGSRNSPDECSVAKGGKMVGSPDTVGM
NYGSYMEEKHMPPPNMTTNERRVIVPADPTLWSTDHVRQWLEWAVKEYGLPDVNIILLFQNIIDGK
ELCKMTKDDFQRLTPSYNADILLSHLHYLRETPLPHLTSDDVDKALQNSPRLMHARNTGGAAFI
FPNTSVYPEATQRITTRPDLPEPPRRSAWTGHGHPTPQSKAAQSPSTVTPKTEDQRPQLDPYQ
ILGPTSSRLANPGSGQIQWLWQFLLELLSDSSNSSCITWEGTNGEFKMTDPDEVARRWGERKSKP



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NMNYDKLSRALRYYYDKNIMTKVHGKRYAYKFDHFGIAQALQPHPPESLYKYPSDLPYMGSYH
AHPQKMNFFVAPHPALPVTSSSFFAAPNPYWNSPTGGIYPNTRLPTSHMPSHLGTYYLEESGGG
GSPGRRRRRRRRRRR