



**LD Biopharma, Inc.**  
7384 Trade Street, Suite B  
San Diego, CA 92121  
Tel: 858-876-8266  
<http://www.ldbiopharma.com>

## **- PRODUCT DATA SHEET -**

**Name of Product:** Recombinant Human ECRG4 Protein  
**Catalog Number:** HRP-3499  
**Manufacturer:** LD Biopharma, Inc. USA

### **Introduction**

Human Esophageal cancer-related gene-4 (ECRG4, Augurin) gene encodes a probable hormone that may attenuate cell proliferation and induce senescence of oligodendrocyte and neural precursor cells in the central nervous system. ECRG4-induced senescence is characterized by G1 arrest, RB1 dephosphorylation and accelerated CCND1 and CCND3 proteasomal degradation. ECRG4 is expressed in a wide variety of other cells/tissues, including cardiomyocytes and conduction system of the heart, the glomus cells of the carotid body, adrenal glands, choroid plexus, and leukocytes among others, where it exerts distinct functions, such as promoting/suppressing inflammation, inducing neuron senescence, stimulating the hypothalamus-pituitary-adrenal axis, maintaining the stemness of stem cells, participating in the rhythm and rate control of the heart, and possibly gauging the responsiveness of the cardiovascular system (CVS) to hypoxia.

Full-length mature form (Augurin) of human ECRG4 cDNA (71-132aa) was constructed with codon optimization gene synthesis and expressed with a human alpha Fetal Protein N-terminal (AFPn) -His-TEV cleavage site Tag (217aa) fusion at its N-terminal in E.coli as inclusion bodies. The final product was refolded using our unique “temperature shift inclusion body refolding” technology and chromatographically purified.

**Gene Symbol:** ECRG4 ( C2orf40 )  
**Accession Number:** NP\_115787  
**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, Sucrose, DTT and others.  
**Storage:** In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.



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## Key References

Rui Zhou, . *Potential functions of esophageal cancer-related gene-4 in the cardiovascular system*. Front. Med., 2019, 13(6): 639-645

Dorschner RA, et al., *ECRG4 regulates neutrophil recruitment and CD44 expression during the inflammatory response to injury*. Sci Adv 6 (11), eaay0518 (2020)

Zhou R, et al., *Potential functions of esophageal cancer-related gene-4 in the cardiovascular system*. Front Med 13 (6), 639-645 (2019)

## Applications

1. May be used for in vitro ECRG4 mediated signaling regulation study in vitro for various cells with this recombinant ECRG4 protein either as soluble factor or as coating matrix protein.
2. May be used for ECRG4 protein-protein interaction assay.
3. As native human ECRG4 antigen for specific antibody production.

## Quality Control

Purity: > 92% by SDS-PAGE.

## Recombinant Human AFPn- ECRG4 Fusion Protein Sequence (32.4 kD)

MTLHRNEYGIASILDSYQCTAEISLADLATIFFAQFVQEATYKEVSKMVKDALTAIEKPTGDEQ  
SSGCLLENQLPAFLEELCHEKEILEKYGHSDCCSQSEEGRHNCFLAHKKPTPASIPLFQVPEPVT  
SCEAYEEDRETFMNFYIYEIARRHPFLYAPTILLWAARYDKIIPSCCKAENAVECFQTKAATVT  
KELRESSGGSHHHHHHGS**ENLYNQ**QQLWDRTRPEVQQWYQQFLYMGFDEAKFEDDITYWLNDR  
NGHEYYGDYYQRHYDEDSAIGPR