



LD Biopharma, Inc.
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- PRODUCT DATA SHEET -

Name of Product: Recombinant Human CSH1 Protein
Catalog Number: hRP-1198
Manufacturer: LD Biopharma, Inc.

Introduction

The protein encoded by human chorionic somatomammotropin hormone 1 (CSH1) gene is a member of the somatotropin/prolactin family of hormones and plays an important role in growth control. The gene is located at the growth hormone locus on chromosome 17 along with four other related genes in the same transcriptional orientation; an arrangement which is thought to have evolved by a series of gene duplications. Although the five genes share a remarkably high degree of sequence identity, they are expressed selectively in different tissues. Alternative splicing generates additional isoforms of each of the five growth hormones, leading to further diversity and potential for specialization. This particular family member is expressed mainly in the placenta and utilizes multiple transcription initiation sites. Expression of the identical mature proteins for chorionic somatomammotropin hormones 1 and 2 is up-regulated during development, although the ratio of 1 to 2 increases by term. Mutations in this gene result in placental lactogen deficiency and Silver-Russell syndrome.

Full-length mature form of human CSH1 cDNA (27 – 217 aa, derived from BC057768) was constructed with codon optimization and expressed with a small T7-His-TEV cleavage site Tag (29aa) fusion at its N-terminal. This protein is expressed 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: CSH1 (CS-1, CSA; CSMT; hCS-A; PL)
Accession Number: NP_001308
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.



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Storage: In Liquid. Keep at -80°C for long term storage. Product is stable at 4 °C for at least 30 days.

Key References

Mannik,J., et al., *Differential placental expression profile of human Growth Hormone/Chorionic Somatomammotropin genes in pregnancies with pre-eclampsia and gestational diabetes mellitus.* Mol. Cell. Endocrinol. 355 (1), 180-187 (2012)

Lombardo,M.F., et al., *Human placental lactogen (hPL-A) activates signaling pathways linked to cell survival and improves insulin secretion in human pancreatic islets.* Islets 3 (5), 250-258 (2011)

Applications

1. May be used for in vitro CSH1 protein mediated pancreatic islets cell differentiation regulation study with this protein as either coating matrix protein or soluble factor.
2. May be used as CSH1 protein-protein interaction assay.
3. As enzymatic substrate for various proteases.
4. As potential diagnostic biomarker protein for pre-eclampsia.
5. As antigen for specific antibody production.

Quality Control

Purity: > 90% by SDS-PAGE.

Recombinant Protein Sequence

MASMTGGQQMGRGRHHHHHENLYFQGGEFVQTVPLSRLFDHAMLQAHRAHQLAIDTYQEFEEETY
IPKDQKYSFLHDSQTSFCFSDSIPTPSNMEETQQKSNLELLRISLLLLIESWLEPVRFLRSMFAN
NLVYDTSDDSDDYHLLKDLLEGIQTLMGRLEDGSRRTGQILKQTYSKFDTNSHNHDALLKNYGLL
YCFRKDMDKVETFLRMVQCRSVEGSCGF