

## Placental Lactogen/CSH1 Protein, Human, Recombinant (His), Biotinylated

### General Information

|                       |   |
|-----------------------|---|
| Synonyms:             | hCS-A;CS-1;CSA;hCS-1;PL;CSMT;chorionic somatomammotropin hormone 1 (placental lactogen)   |
| Protein Construction: | A DNA sequence encoding the human CSH1 (NP_001308.1) (Met1-Phe217) was expressed, fused with a polyhistidine tag at the C-terminus. The purified protein was biotinylated in vitro.<br>Predicted N terminal: Val 27 |
| Species:              | Human   |
| Expression Host:      | HEK293 Cells  |
| Accession:            | A8K6C2  |
| Molecular Weight:     | 23.7 kDa (predicted)  |

### QC Testing

|                      |  |
|----------------------|--|
| Biological Activity: | Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.   |
| Purity:              | > 87 % as determined by SDS-PAGE   |
| Endotoxin:           | < 1.0 EU/μg of the protein as determined by the LAL method.  |
| Formulation:         | Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization. |

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Chorionic somatomammotropin hormone, also known as Choriomammotropin, Lactogen, Placental lactogen and CSH1, is a secreted protein which belongs to the somatotropin / prolactin family. CSH1 is produced only during pregnancy and is involved in stimulating lactation, fetal growth and metabolism. Does not interact with GHR but

only activates PRLR through zinc-induced dimerization. The CSH1 gene is member of the GH gene cluster on 17q, which consists of two growth hormone genes and three CSH genes. Genomic alterations in the GH cluster are well known, causing different phenotypes depending on the size of the deletion and the genes involved. The increased prevalence of hemizyosity of CSH1 in population in comparison to controls indicates a role for CSH1 haploinsufficiency in the etiology of growth retardation. Investigation of CSH1 deletions in further SRS and growth retarded patients will enable us to establish under which circumstances haploinsufficiency of CSH1 is likely to result in clinical changes.

### Reference

- Prager,S. et al., 2003,Genet Test. 7 (3):259-63.  
Singleton, DR. et al., 2004, Microbiology. 150 (Pt 2): 285-92.  
Chen,Y. et al., 2008, Cancer Res. 68 (23):9729-34.

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