

Product description

Human Choriongonadotropin (hCG) is a heterodimeric glycoprotein composed of two subunits (alpha and beta). The protein is involved in all reproductive and developmental processes in humans. hCG promotes angiogenesis during pregnancy and its expression is observed in several malignancies including prostate cancer, colorectal cancer, lung cancer (1).

Labelled hCG is a recombinant protein, stable isotope labelled (SIL), designed for use as an internal standard for quantitative analysis of hCG by mass spectrometry (MS).



Product name Human hCG SIL-protein



Catalog number CG115931

Uniprot ID P01215 (alpha chain)
P0DN86 (beta chain)

Protein sequence

Alpha chain (CGA):

APDVQDCPECTLQENPFSSQPGAPILQCMGCCFSRAYPTPLRSKKTMLVQKNVTSESTCCVAKSYNRVTVMGGFKVENHTACHCSTCYHKS
HHHHHH

Beta chain (CGB):

SKEPLRPRCRPINATLAVEKEGCPVCITVNTTICAGYCPTMTRVLQGVLPALPQVVCNYRDVRFESIRLPGCPRGVNPVVSYAVALSCQCALCRR
STTDCCGGPKDHPLTCDDPRFQDSSSSKAPPSLPSRLPGSDTPILPQ

Product features and protocols

Key features

- 1** Purity >90% as determined by SDS-PAGE
- 2** Labelling Arg-¹³C₆, ¹⁵N₄ | Lys-¹³C₆, ¹⁵N₂
- 3** Isotopic incorporation >99% as determined by LC-MS/MS analysis of digested SIL-protein

Other features

Predicted MW	10.2 kDa (alpha subunit) 16.0 kDa (beta subunit)
Expression System	HEK (Human Embryonic Kidney) cell line
Purification Tag	PolyHis tag at the C-terminus end of alpha subunit
Protein content	Quantitation is carried out by BCA protein assay using BSA as standard.
Formulation	Lyophilized from 35 mM Sodium Phosphate, 1% Mannitol buffer.

Product preparation

For product preparation we recommend the following steps:

- Briefly centrifuge the tube before opening
- Reconstitute by adding the appropriate volume of ultrapure water for a final concentration of 200 µg/ml (e.g. 50 µl for 10 µg or 250 µl for 50 µg conditioning)
- Vortex gently to insure complete dissolution
- Wait 15 minutes at room temperature before proceeding further
- Vortex gently again and centrifuge briefly

Product storage

The product is lyophilized and shipped at ambient temperature. **Store at -80 °C upon receipt.**

After reconstitution, the protein can be preserved at 4°C for a few weeks.

Avoid multiple freeze-thaw cycles

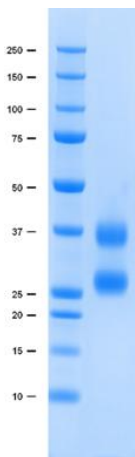
How to use our product



SIL proteins allow to overcome the process variability since they are added at the very beginning of a sample preparation. This has potential positive impact on your analyte quantification, especially if the analyte interacts with other species commonly present within the matrix (2).



Supporting information



SDS-PAGE gel analysis of hCG protein in Reduced/Heated conditions (RH) and stained with Coomassie blue.

Apparent molecular weights of about 26 and 36 kDa observed with SDS-PAGE for alpha and beta subunits respectively (Bellisario, R., et al. and Carlsen, R.B. et al., J. Biol. Chem., 1973).

References

1. **H. Heidegger** Human Chorionic Gonadotropin (hCG)—An Endocrine, Regulator of Gestation and Cancer Int J Mol Sci. 2018 May; 19(5): 1502.
2. **G. Picard, D. Lebert, et al.** PSAQ standards for accurate MS-based quantification of proteins: from the concept to biomedical applications, J. Mass Spectrom. 2012, 47, 1353-1363



The product is intended for research use only. Not for diagnostic or therapeutic use.

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