Chorionic gonadotropin human

Product Number  C 0684
Storage Temperature  -0 °C

Product Description
CAS Number:  9002-61-3
pI = 2.95
Extinction Coefficient:  E1%= 3.88 (278nm)
Synonym:  Choriogonin, hCG

The molecular weight is approximately 37.9 kDa (with approximately 31% carbohydrate by weight). The theoretical molecular weight is 37.9 kDa based on the native form, which contains 2 subunits. The α subunit has a molecular weight of 14.9 kDa of which approximately 10.2 kDa is for the polypeptide and approximately 4.7 kDa for the carbohydrate. The β subunit has a molecular weight of 23 kDa of which approximately 16.0 kDa is for the polypeptide and approximately 7.0 kDa is for the carbohydrate.3,4,5

Product Number C 0684 is sterile filtered and contains approximately 1,000 I.U. per vial.

hCG is a glycoprotein hormone produced by the chorionic tissue of the placenta. It is a member of the glycoprotein hormone family which includes luteinizing hormone (LH), follicle-stimulating hormone (FSH), and thyroid-stimulating hormone (TSH). Its function is to maintain the corpus luteum and stimulate steroid secretion from the ovary in the beginning stages of gestation. hCG appears in the blood and urine during the first trimester of early pregnancy and levels decrease thereafter. It has been used for superovulation in animals.6

hCG consists of an α subunit of 92 amino acids and a β subunit of 145 amino acids.1 The α subunit is common among the family of glycoprotein hormones, whereas the hormone-specific β subunit, which exhibits different degrees of homology, may confer biologic specificity of the individual hormone.1 The amino acid sequences of the α subunit3,7 and the β subunit4,7 and the crystal structure of hCG8 have been reported.

When hCG was used in combination with recombinant interferon-γ, there was a significant cooperative induction of nitric oxide synthesis (iNOS) in a dose-dependent manner in mouse peritoneal macrophages suggesting that hCG may provide a second signal for synergistic induction of NO synthesis.9

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
hCG is soluble in water and aqueous buffers such phosphate buffer. hCG is also soluble in aqueous glycerol and glycols and is insoluble in ethanol.1 Solutions should be sterile filtered and not autoclaved.

Storage/Stability
Dilute aqueous solutions undergo rapid loss of activity when stored frozen, or heated, or if excess acid or base is added. Gelatin and serum proteins help to stabilize aqueous solutions of hCG. hCG is stable in a glycerol solution at 100 °C for one hour.10 Neutral buffered aqueous solutions of hCG can be stored as single use aliquots at -20 °C.

References
1. The Merck Index, 13th ed., Entry# 2237.


