

**ELISA kits available from ADI (see details at the web site)**

#0010	Human Leptin		
#200-120-AGH	Human globular Adiponectin (gAcrp30)		
#0700	Human Sex Hormone Binding Glob (SHBG)		
#0900	Human IGF-Binding Protein 1 (IGFBP1)		
#1000	Human C-Reactive Protein (CRP)		
#100-110-RSH	Human Resistin /FIZZ3		
#100-140-ADH	Human Adiponectin (Acrp30)		
#100-160-ANH	Human Angiogenin		
#100-180-APH	Human Angiopoietin-2 (Ang-2)		
#100-190-B7H	Human Bone Morphogenic Protein 7 (BMP-7)		
#1190	Human Serum Albumin	#1200	Human Albumin (Urinary)
#1750	Human IgG (total)	#1760	Human IgM
#1800	Human IgE	#1810	Human Ferritin
#1210	Human Transferrin (Tf)		
#0020	Beta-2 microglobulin		
#1600	Human Growth Hormone (GH)		
#0060	Human Pancreatic Colorectal cancer (CA-242)		
#1820	Human Ovarian Cancer (CA125)	#1830	Human CA153
#1840	Human Pancreatic & GI Cancer (CA199)		
#1310	Human Pancreatic Lipase		
#1400	Human Prostatic Acid Phosphatase (PAP)		
#1500	Human Prostate Specific Antigen (PSA)	#1510	free PSA (fPSA)
#0500	Human Alpha Fetoprotein (AFP)		
#0050	Human Neuron Specific Enolase (NSE)		
#0030	Human Insulin	#0040	Human C-peptide
#0100	Human Luteinizing Hormone (LH)		
#0200	Human Follicle Stimulating Hormone (FSH)		
#0300	Human Prolactin (PRL)		
#0400	Human Chorionic Gonadotropin (HCG)	#0410	HCG-free beta
#0600	Human Thyroid Stimulating Hormone (TSH)		
#1100	Human Total Thyroxine (T4)	#1110	Human Free T4 (fT4)
#1650	Human free triiodothyronine (fT3)	#1700	Human T3 (total)
#1850	Human Cortisol	#1860	Human Progesterone
#1865	Human Pregnenolone	#1875	Human Aldosterone
#1880	Human Testosterone	#1885	Human free Testosterone
#1910	Human Androstenedione	#1920	Human Estradiol
#1925	Human Estrone	#1940	Dihydrotestosterone (DHT)
#1950	Human DHEA-sulphate (DHEA-S)		
#3400	Human serum Neopterin		
#3000	Human Rheumatoid Factors IgM (RF)		
#3100	Human anti-dsDNA		
#3200	Anti-Nuclear Antibodies (ANA)		

Instruction Manual No. M-800-140-CHO

**Chinese Hamster Ovary Cell (CHO) host cell  
Proteins (HCPs) ELISA Kit**

**Cat # 800-140-CHO, 96 Tests**

**For Quantitative Determination of CHO-HCP in Hamster  
serum**

*For In Vitro Research Use Only (RUO)*



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## CHO-HCP ELISA KIT # 800-140-CHO Kit Contents (96 tests):

Components	#
Purified Hamster CHO-HCP antibody <b>coated</b> microwell strips (96 wells, 12 x 8 wells), #800-141P	1 Plate
<b>Hamster CHO-HCP Standard, #800-142, 32 pg/mL, 0.5 mL</b>	1 vial
Sample <b>Diluent, #800-143, 6 mL</b>	1 bottle
Standard <b>Diluent, #800-144, 1.5 mL</b>	1 vial
<b>HRP Conjugate, #800-145, 6 mL</b>	1 bottle
<b>Chromogen Solution A, #800-140-SA, 6 mL</b>	1 bottle
<b>Chromogen Solution B, #800-140-SB, 6 mL</b>	1 bottle
<b>Stop Solution, #800-140-ST, 6 mL</b>	1 bottle
<b>Wash buffer (20X), #800-140-WB, 20 mL</b>	1 bottle
Complete Instruction <b>Manual, M-800-140-CHO</b>	1

### Intended Use

ADI's Chinese Hamster Ovary Cell (CHO) host cell Proteins (HCPs) ELISA kit is a highly sensitive Sandwich assay for the measurement of CHO-HCP concentrations in Hamster serum, plasma and other biological fluids.. For research use only (RUO), not for diagnostic procedures.

### General Information

A large number of genes have been cloned and expressed in various host cells (E. coli, yeast, baculovirus, NSO, Sp2/0, HEK, CHO cells). The translated recombinant proteins may remain within the cell, requiring host cell disruption for release, and/or may be secreted into the culture medium. The target recombinant proteins would then be purified from unwanted host cell protein (HCP), often with the aid of a tag (e.g., His, GST, MBP). While traces of HCP (which are often present in the purified material) may not represent a major problem for recombinants that are used for in vitro or research use applications, an increasing number of recombinant proteins are developed for therapeutic purposes (insulin, erythropoietin, GM-CSF or humanized antibodies such Rituximab & Xolair), where the presence of HCP is potentially toxic or allergic, may create other health hazards, or otherwise affect the efficacy of the drug. In these cases, detecting residual HCP and establishing minimum acceptable levels is required. Of two typical and powerful methods used for HCP characterization, Western Blot can reveal the number, size and relative concentrations of HCPs, while ELISA can provide ultra-sensitive detection and quantification using an easy, rapid assay that accommodates large numbers of samples and replicates.

2) For valid test results, adequate controls and other parameters must be within the listed ranges and assay requirements.

3. If test kits are altered, such as by mixing parts of different kits, which could produce false test results, or if results are incorrectly interpreted, ADI shall have no liability.

4. If computer controlled data reduction is used to interpret the results of the test, it is imperative that the predicted values for the calibrators fall within 10% of the assigned concentrations.

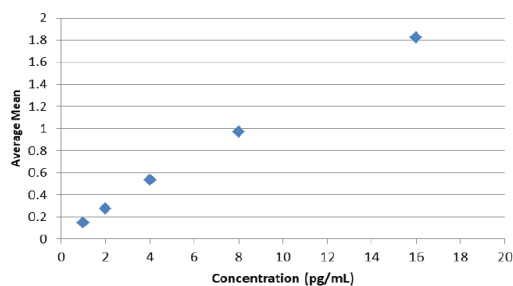
### Assay Range

**0.5 pg/mL – 16 pg/mL**

## WORKSHEET OF TYPICAL ASSAY

Wells	Stds/samples	Mean A450nm
A1, A2	Std. A (0 pg/ml)	0.012
B1, B2	Std. B (1 pg/ml)	0.188
C1, C2	Std. C (2 pg/ml)	0.335
D1, D2	Std. D (4 pg/ml)	0.546
E1, E2	Std. E (8 pg/ml)	0.938
F1, F2	Std. F (16 pg/ml)	1.868

**NOTE:** These data are for demonstration purpose only. A complete standard curve must be run in every assay to determine sample values. Each laboratory should determine their own normal reference values.



### Calculation of results:

A dose response curve is used to ascertain the concentration of CHO-HCP in unknown specimens.

1. Record the A450 obtained from the printout of the microplate reader.
2. Plot the A450 for mean duplicate calibrator versus the CHO-HCP concentration in pg/ml on linear graph paper. Connect the points with a best-fit curve.
3. To determine the concentration of CHO-HCP for an unknown, locate the average A450 of the duplicates for each unknown on the vertical axis of the graph, find the intersecting point on the curve, and read the concentration (in pg/ml) from the horizontal axis of the graph (the duplicates of the unknown may be averaged).

Note: If the samples measured were diluted, multiply the dilution factor to the concentrations from interpolation to obtain the concentration before dilution.

### Interpretation

1. Measurements and interpretation of results must be performed by a skilled individual or trained professional.

## PRINCIPLE OF THE TEST

CHO-HCP ELISA kit measures an unknown amount of Hamster CHO-HCP present in the sample. The microtiter plate provided in this kit has been pre-coated with Purified Hamster CHO-HCP antibody. Hamster CHO-HCP is then added to the wells. An antibody - antigen - enzyme-antibody complex is made by adding antibody labeled HRP. Chromogen A and Chromogen B is then added as a visualizing agent which gives blue color. Finally, the enzyme-catalyzed reaction is terminated by the addition of stop solution and the color change is measured spectrophotometrically at a wavelength of 450 nm. The concentration of Hamster CHO-HCP in the samples is then determined by comparing the O.D. of the samples to the standard curve.

## MATERIALS AND EQUIPMENT REQUIRED

Adjustable micropipette (50-200  $\mu$ l) and multichannel pipet with disposable plastic tips. Reagent troughs, plate shaker (orbital shaker), plate washer (recommended) and ELISA plates Reader.

## SPECIMEN COLLECTION AND STORAGE

**Plasma:** Collect plasma using EDTA-Na2 as an anticoagulant. Centrifuge samples for 15 minutes at 1000xg at 2 - 8°C within 30 minutes of collection. Collect the supernatant and carry out the assay immediately. Avoid hemolysis, high cholesterol samples.

**Serum:** Allow samples to clot for 2 hours at room temperature or overnight at 4°C before centrifugation for 20 minutes at approximately 1000xg. Collect the supernatant and carry out the assay immediately. Blood collection tubes should be disposable, non-pyrogenic, and non-endotoxin.

### Notes:

1. Samples should be used within 7 days when stored at 2-8°C, otherwise samples must be divided and stored at -20°C ( $\leq$ 1month) or -80°C ( $\leq$ 6months) to avoid the loss of bioactivity and contamination. Avoid repeated freeze-thaw cycles.
2. Please take the samples to room temperature (18-25°C) without extra heating before performing the assay.
3. Please predict the concentration before assaying. If the sample concentration is not within the range of the standard curve, users must determine the optimal sample dilutions for their particular experiments.

**Note: Samples which contain NaN3 cannot be used, because NaN3 inhibits HRP active.**

### Assay Performance

1. It is important that the time of reaction in each well is held constant to achieve reproducible results.
2. Pipetting of samples should not extend beyond ten (10) minutes to avoid assay drift.
3. If more than one (1) plate is used, it is recommended to repeat the dose response curve.
4. The addition of substrate solution initiates a kinetic reaction, which is terminated by the addition of the stop solution. Therefore, the substrate and stop solution should be added in the same sequence to eliminate any time-deviation during reaction.
5. Plate readers measure vertically. Do not touch the bottom of the wells.
6. Failure to remove adhering solution adequately in the aspiration or decantation wash step(s) may result in poor replication and spurious results.
7. Use components from the same lot. No intermixing of reagents from different batches.
8. Accurate and precise pipetting, as well as following the exact time and temperature requirements prescribed, is essential. Any deviation from ADI's IFU may yield inaccurate results.
9. All applicable national standards, regulations and laws, including, but not limited to, good laboratory procedures, must be strictly followed to ensure compliance and proper device usage.
10. It is important to calibrate all the equipment e.g. Pipettes, Readers, Washers and/or the automated instruments used with this device, and to perform routine preventative maintenance.

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<b>#0600</b>	Human Thyroid Stimulating Hormone (TSH)		
<b>#1100</b>	Human Total Thyroxine (T4)	<b>#1110</b>	Human Free T4 (fT4)
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<b>#1925</b>	Human Estrone	<b>#1940</b>	Dihydrotestosterone (DHT)
<b>#1950</b>	Human DHEA-sulphate (DHEA-S)		
<b>#3400</b>	Human serum Neopterin		
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