

Product Specification Sheet

Chinese Hamster Ovary (CHO) cell host cell proteins (CHO-HCPs)

<input type="checkbox"/> Cat. # 800-140-C15	CHO HCPs (total antigens)	SIZE: 1 mg
<input type="checkbox"/> Cat. # 800-140-PC1	CHO host cell Proteins (HCPs) positive control (10 ug/ml)	SIZE: 1 ml
<input type="checkbox"/> Cat. # 800-140-HRP	Rabbit Anti-CHO-HCPs IgG-HRP conjugate (100X)	Size: 1 ml

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.

During the production of recombinant proteins, host cells die and decompose; thus, regardless of whether the recombinant product is obtained from extra-cellular medium or after disrupting the host cell, the entire repertoire of host cell proteins present as potential contaminants in downstream purification and processing of the recombinant protein product. The ADI CHO HCP ELISA relies on polyclonal antibodies from multiple hosts (rabbit, chicken) immunized with a full repertoire of intra- and extra-cellular HCPs -- antibodies with Western Blot-demonstrated multivalent specificities for a wide array of cellular and extra-cellular proteins. The CHO HCP ELISA, then, provides a broad-range, sensitive tool to conveniently and efficiently screen for the several potential contaminants that may accompany the recombinant protein during processing.

Source of Antigen and Antibodies

Antigen	CHO Cells antigens (#800-140-C15) supplied in PBS, pH 7.4 (no additives). Lot specific concn on the vials. Store at -20oC or below in suitable size aliquots.
	#800-140-PC1 is supplied at 10 ug/ml (lot specific concn on the vial) for use as CHO-HCP antigens positive control for ADI ELISA kit #800-140-CHO

Cat# 800-140-HRP, Rb Anti-CHO HCP IgG-HRP-conjugate

Purified antibody was coupled to HRP (RZ>3.0) using periodate method. The molar enzyme to protein (E/P) ratio = 4.0. The antibody is supplied in stabilizing buffer, 0.1% prolcin-300 as preservative in , HRP stabilizing buffer. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:100 to detect at least 5 ng of CHO HCPs by ELISA. Antibody-HRP conjugate dilution should be optimized for a given technique.

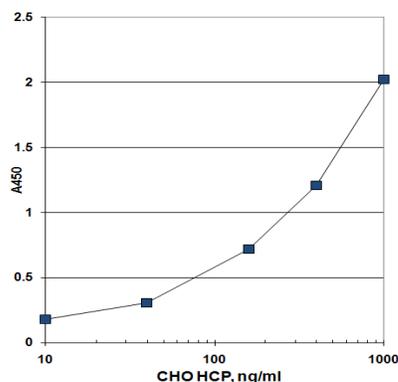
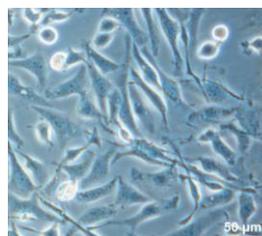


Fig. Rabbit anti-CHO HCP IgG (# 800-140-11A) were coated on the plate and HCO antigens (#800-140-C15) used as standards using antibody-HRP conjugate (#800-140-HRP at 1:100 dilution) in ADI ELISA #800-140-CHO in 105 min assay at RT.



Chinese hamster ovary (CHO) cells are a cell line derived from the ovary of the Chinese hamster, often used in biological and medical research and commercially in the production of therapeutic proteins. They have found wide use in studies of genetics, toxicity screening, nutrition and gene expression, particularly to express recombinant proteins. Today, CHO

cells are the most commonly used mammalian hosts for industrial production of recombinant protein therapeutics.

General References: Wum FM (2004) Nature Biotech. 22, 1393-1398; Wum FM (2011) Nature Biotech., 29, 718-720.

**This product is for In vitro research use only.*

Related material available from ADI

800-140-CHO Chinese Hamster Ovary Cell (CHO) host cell Proteins (HCPs) ELISA kit, 96 tests

800-130-ECP E Coli proteins (5 strains) host cell proteins (HCPs) ELISA kit, 96 tests

800-140-C15-CHO-HCP-Antigens 160420A