



CHO Cell Host Protein Assay Kit

Product Booklet 2022 Ver.00

Product Description

The CHO Cell HCP (Host Cell Protein) Residue Assay Kit is designed to detect host cell protein (HCP) residues during the production of biological products by the Chinese hamster ovary cell CHO-K1 cell line. Specific antibodies can recognize and detect more than 80% of the HCP molecules, including low and high molecular weight species, which can be well detected. It can be used for early or late process development and quality control of the CHO-K1 expression system. The kit can monitor HCP removal during process development process, as well as product quality testing and release.

Application Scope

Duoning Bio HCP assay kit adopts one-step enzyme-linked immunosorbent assay (ELISA). Samples containing HCP can be reacted simultaneously with HRP-labeled goat anti-CHO-K1 antibody and anti-CHO-K1 antibody coated on the ELISA plate. A solid-phase antibody-HCP- labeled antibody for sandwich complex is finally formed. Unbound antigen-antibody can be removed by washing the ELISA plate. Add TMB substrate into the well for sufficient reaction, then add stop solution to stop color development, and read the OD values of the reaction solution at 450nm and 650nm with microplate reader. The values of OD 450nm~OD 650nm are positively correlated with HCP content in the solution, and the HCP concentration in the solution can be calculated from the standard curve.

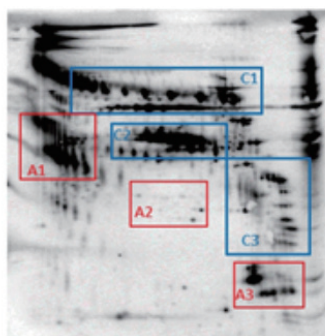
Product Features

- Higher coverage of 81% (detected with 2D Gel/Western Blot):
- The detection antibodies used in Duoning Bio HCP assay kit have a wide recognition efficiency for HCP of different sizes and different isoelectric points. After 2D electrophoresis and Western Blot detection, the coverage rate can be up to 80% above.

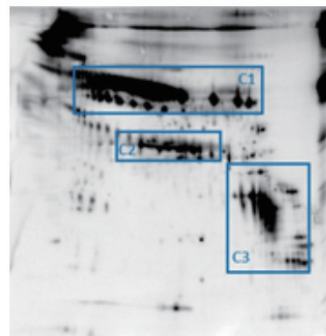


Case Sharing

- The blue box in the figure is the host cell protein spots recognized by Duoning antibody and the antibodies in mainstream kits on the market, and the red box is the additional recognition host cell protein spot provided by Duoning antibody.



Duoning HCP assay reagent (81%)



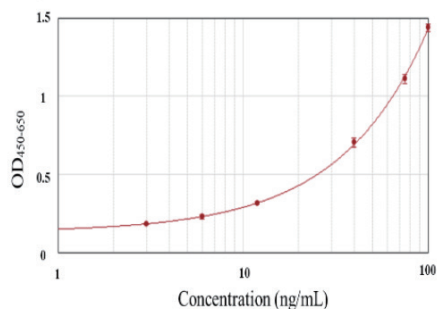
Mainstream HCP assay kits of the same type (63%)

Case Sharing

- Good linearity:

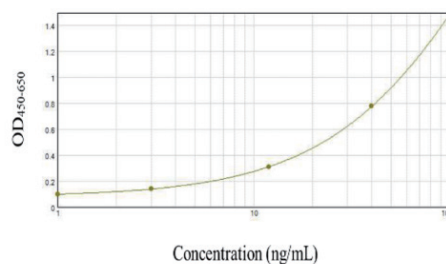
Measurements for CHO-K1 host cell protein show that the Duoning Bio HCP Assay Kit has good linearity over a wide range (3ng/mL-200ng/mL).

Example Standard Curve



Duoning HCP assay reagent

Example Standard Curve



Mainstream HCP assay kits of the same type

- Good solvent compatibility and detection specificity:

Buffer system	Measured concentration of spiked 20ng/ml HCP standard samples(ng/ml)	Recovery (%)
PBS buffer,pH7.4/Triton X-100	17.9	87%-93%
Histidine buffer pH 6.0/PS80	20.3	97%-106%
Histidine buffer pH 6.0/Sucroseand PS 80	19.4	92%-102%

- With good precision and accuracy:

The repeatability and precision of the kit were investigated at three different sample concentrations: low, medium and high. The results showed that the kit had good repeatability and accuracy under the conditions of different concentrations, and could meet the quality control standards for detection.

Items	Repeatability (RSD%,n-4)	Intermediate precision (PSD%,n=12)	Accuracy (%Recovery, n=12)
Low (3 ng/mL)	<16%	10%	70%-105%
Medium (12 ng/mL)	<6%	6%	92%-114%
High (75 ng/mL)	<5%	4%	93%-107%

- It had good sensitivity and lowest limit of quantification:

The operation index of the kit was investigated at the lowest limit of quantification (3ng/mL), and the results showed that the kit still had good signal to noise ratio, precision and accuracy at the lowest limit of quantification.

Items	Mean (n=6)	Range (n=6)
Signal to noise ratio	7.8	7.1-8.3
Precision (%)	2%	0%-4%
Accuracy (%)	95%	90%-96%

Ordering information

Product name	Article No.
HCP (Host Protein) Residue Assay Kit (to be coated)	DNRG030101
HCP (Host Protein) Residue Assay Kit (pre-coated)	DNRG030102

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