ResiQuant® CHO HCP ELISA Kit-FAST

Fast, quantitative sandwich ELISA for residual host cell protein monitoring in CHO-derived process samples

SENSITIVE	HIGH COVERAGE	FAST TO RESULT
LOD 0.5 ng/mL	**85% antibody coverage***	**Approx. 2-hour assay**

Product overview

ResiQuant® CHO HCP ELISA Kit-FAST is a simple-to-use quantitative assay for detecting residual host cell protein (HCP) impurities in products and process intermediates derived from Chinese hamster ovary (CHO) expression systems. The kit uses a sandwich immunoassay format and is designed to support process development, in-process monitoring, purification studies, and product-release workflows.

Key features

- Sensitive performance: limit of detection (LOD) of 0.5 ng/mL and lower limit of quantitation (LLOQ) of 1.0 ng/mL.
- Risk-relevant antibody coverage: characterized by antibody affinity extraction and mass spectrometry, with reported 85% coverage including high-risk impurities.*
- Rapid workflow: no complex pre-treatment steps; the complete assay workflow is approximately 2 hours.
- Quantitative results: use of supplied standards and a four-parameter logistic (4PL) standard curve for sample concentration determination.

INTENDED USE For research and manufacturing use only. Not intended for diagnostic or therapeutic use. This general datasheet does not replace the product label, user manual, Certificate of Analysis, or Safety Data Sheet.

General product characteristics

Assay format	Quantitative sandwich ELISA
Target analyte	Residual CHO host cell proteins (HCP)
Host cell	Chinese hamster ovary (CHO)
Readout	Absorbance at 450 nm; 630 nm or 570 nm reference wavelength optional
Standard curve	Supplied CHO HCP standards; 4PL curve fit recommended
Use areas	Process development, manufacturing process monitoring, and product release

Performance specifications

Parameter	General specification	Parameter	General specification
LOD	0.5 ng/mL	**Storage**	2-8°C
LLOQ	1.0 ng/mL	**Shipping condition**	Dry ice
Recovery	70%-130%	**Shelf life**	12 months
Intra-assay precision	CV ≤15%	**Inter-assay precision**	CV ≤20%
Accuracy	RSD ≤20%	**Kit size**	48 or 96 reactions

**Coverage and performance values are general product characteristics; confirm current lot-specific documentation before use.*

Assay principle

Microplate wells are coated with antibodies specific for CHO HCP. Standards or samples and HRP-labeled anti-CHO HCP antibody are added to the wells simultaneously. During incubation, CHO HCP forms antibody-bound immune complexes. After washing, TMB substrate is added. The HRP reaction produces a color signal that is stopped and read at 450 nm; the optical density is proportional to the CHO HCP concentration in the sample.

Kit contents

Component	96-test kit	48-test kit
CHO HCP standards (250, 100, 40, 16, 6.4, 2.6, 1 and 0 ng/mL; 1 mL/vial)	8	8
CHO HCP 2G microplate	8 × 12 wells	8 × 6 wells
100× CHO HCP HRP-antibody	60 µL	30 µL
CHO HCP assay diluent	2 × 25 mL	25 mL
20× wash buffer concentrate	30 mL	30 mL
Substrate solution	12 mL	6 mL
Stop solution	12 mL	12 mL
Plate sealer	3	2

STORAGE Store kit components at 2-8°C. Protect substrate solution from light. Do not mix or substitute reagents from different kit lots.

General assay workflow

Use the following as general guidance. For complete instructions, acceptance criteria, and lot-specific information, follow the current user manual supplied with the kit.

Step	General procedure
1. Prepare	Equilibrate kit reagents and samples to room temperature. Prepare 1× wash buffer from the 20× concentrate. Prepare fresh 1× HRP-antibody working solution.
2. Add samples	Add 100 µL of standards or appropriately diluted samples to the wells, followed immediately by 50 µL HRP-antibody working solution.
3. Incubate	Seal the plate and incubate at 37°C with shaking (500 rpm) for 120 minutes.
4. Wash	Remove liquid and wash wells five times with 300 µL wash buffer per well.
5. Develop	Add 100 µL substrate solution. Incubate at 25°C in the dark for 15 minutes.
6. Stop and read	Add 100 µL stop solution. Read within 10 minutes at 450 nm; use 630 nm or 570 nm reference wavelength when available.
7. Calculate	Generate a 4PL standard curve and calculate sample concentration, accounting for dilution factors.

Sample handling and data analysis

- Clarify samples and remove visible precipitates by centrifugation before testing.
- Perform a suitability study to assess matrix effects and establish appropriate dilution conditions for each sample type.
- Test standards and samples in at least duplicate wells. A standard-curve R^2 of not less than 0.99 is recommended.
- If a sample response exceeds the upper standard, dilute and remeasure; include the dilution factor in the final reported result.

COMPATIBILITY No cross-reactivity was observed with E. coli, Vero, or HEK293 whole-cell lysates under the reported test conditions. Verify suitability for the intended sample matrix.

Materials required but not provided

Microplate reader capable of measurement at 450 nm (with optional 630 nm or 570 nm reference wavelength), adjustable micropipettes and disposable tips, microplate shaker, and deionized or distilled water.

Ordering information

Catalog no.	Product name	Size
CRH00-3051S	ResiQuant® CHO HCP ELISA Kit-FAST	48T
CRH00-3051	ResiQuant® CHO HCP ELISA Kit-FAST	48T
CRH00-3052	ResiQuant® CHO HCP ELISA Kit-FAST	96T

Quality and use notes

- Use only reagents from the same kit lot. Inspect reagent condition before use and keep components at the specified storage temperature.
- Briefly centrifuge the concentrated HRP-antibody tube before opening to collect liquid from the cap and tube wall.
- If crystallization is observed in the 20× wash buffer concentrate, warm at 37°C until fully dissolved before dilution.
- Follow all laboratory safety procedures and dispose of materials in accordance with applicable institutional requirements.

LIMITATION This datasheet presents general product information only. The user is responsible for confirming assay suitability, including sample matrix effects, dilution linearity, recovery, and reportable range for the intended application.

Related documentation

User manual	Detailed protocol, reagent preparation, and result interpretation
Certificate of Analysis	Lot-specific release information
Safety Data Sheet	Handling and safety information

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