



NQAC

Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Detection of Milk Traces by ELISA

Method Number: NQA-00.8333

Scope of Application: Infant formula, infant cereal, tannin-containing products (i.e. coffee), beverages, finished food products, rinse water, environmental swabs

Description: Samples are homogenized and milk proteins are extracted at 60 °C with buffered salt solution (PBS) that contains an extraction additive. After centrifugation, milk proteins are detected by a sandwich ELISA, using antibodies specific to milk proteins. Sample extract, reference sample extract and standard solutions are added to the antibody-coated wells. The milk proteins present in the sample will bind to the immobilized capture antibodies during incubation. Unbound material is washed away. An enzyme-linked detector antibody is added, which attaches to the bound milk protein residue during incubation. After washing, the substrate is added, developing a blue coloration in the presence of the enzyme-linked detector antibody. Addition of stop solution changes the color from blue to light pink when the milk antigen concentration is low, to purple/blue when there are detectable antigen amounts and remains dark blue if the antigen concentration falls outside the calibration curve. The color intensity is measured using a spectrophotometer at 650 nm. Color development is proportional to the amount of milk proteins in the sample.

Sample Weight Required: 50 g

Analytical Platform: Microplate Reader

Special Information: Original container needed.

Method reports a quantitative result for testing of food products as described in method scope and reports a qualitative result for environmental swabs as “detected” or “not detected” based on a LoD of 100 ng/mL.

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Skim Milk Powder (MSK)	Milk	mg/kg	2.5	20%
Skim Milk Powder (MSK)	Milk Swabs	ng/mL	100	N/A