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MILK FRAUD/BOVINE ELISA (5171BKCM)

General

Due to the lower prices of cow's and buffalo's milk, fraudulent mixing with higher priced milk of other species and sources is economically attractive but illegal and dangerous for allergic consumers. Most of the available immunoassays lack the detection of buffalo's milk and the possibility to detect heat-treated bovine milk due to denaturation of the target protein(s). This ELISA is based on a mouse monoclonal antibody (Mab) raised against the bovine κ -casein. The Mab recognises a 5 amino acids-containing epitope on the glycomacropeptide (GMP) part of bovine κ -casein which is absent on the κ -casein of other milk producing species.

The **Milk Fraud/Bovine ELISA (BKCM)** is a competitive enzyme immunoassay based on antibodies directed against κ -casein.

Kit characteristics

Microtiter plate:

96 Wells
12 x 8 Breakapart

Antibody cross-reactivity:

Cow's κ -casein	100%
Buffalo's κ -casein	100%
Other bovine caseins	0%
Proteins of other species	0%
Proteins of other sources	0%

Conjugate:

Mab-HRP stabilized

Standard range (ready-to-use)

Solutions of bovine κ -casein: 0, 0.10, 0.25, 0.5, 1.0 and 2.5 $\mu\text{g}/\text{ml}$

References

1. Haasnoot W, Sajic N, Doorn Essers K, Streppel L, Verheijen R. (2014) ELISA for Raw and Heat-Treated Cow's and Buffalo's Milk in the Milk of Other Species and Sources. *Advances in Dairy Research* Volume 2, Issue 2,1000118.

Assay characteristics

Using 1:100 diluted samples the measurement range is 0.1% to 2.5% for bovine milk in milk of other species.

Procedure

Diluted samples/standard solutions and conjugate are pipetted in the wells of the ready-to-use microtiter plate and incubated for 1 hour at 20°C - 25°C. After a washing procedure ready-to-use substrate is added and incubated for 30 minutes at 20°C - 25°C. The reaction is stopped and the absorbance is read in a spectrophotometer at 450 nm.

EuroProxima's user-friendly software converts the measured optical density into the concentration of the metabolite in the starting material.