

Serazym[®] Bovine Serum Albumin

Enzyme immunoassay for quantitative detection of bovine serum albumin (BSA)

- ▲ short incubation times
- ▲ ready-to-use standards and control
- ▲ quantitative results (ng/ml)

Introduction

The Serazym[®] Bovine serum albumin ELISA enables the fast and sensitive quantification of bovine serum albumin (BSA) in vaccines and other culture supernatants.

Principle of the Serazym[®] ELISA

The Serazym[®] Bovine serum albumin ELISA is a direct sandwich enzyme immunoassay using immobilized polyclonal antibodies to BSA and horseradish peroxidase labelled anti-BSA antibodies as detection system.

Test kit components

- 96-well microtitration plate
- 50 ml wash buffer, 10fold concentrated
- 2 x 35 ml sample diluent
- 6 x 1.0 ml BSA standards, ready to use
- 1.0 ml BSA control sample, ready to use
- 0.3 ml anti-BSA-HRP-conjugate, 101fold concentrated
- 15 ml TMB-/substrate solution, ready to use
- 15 ml stop solution
- **Attention: The Serazym[®] BSA ELISA is a very sensitive assay detecting only 15 ng BSA per ml sample material. It is recommended to use disposable reagent containers for pipetting the conjugate. Make sure that the glassware and plastic material used for buffer preparation and reagent handling are absolutely free of BSA.**

Test procedure

- add 100 µl of the diluted samples and of the ready to use standards and the control into the intended wells
- incubate 60 min at 20...25 °C
- wash wells 5 x
- add 100 µl of diluted anti-BSA-HRP-conjugate to every well
- incubate 60 min at 20...25 °C
- wash wells 5 x
- add 100 µl of TMB-/substrate solution to every well
- incubate 15 min at 20...25 °C protected from light
- add 100 µl of stop solution to every well
- read absorbances at 450/620 nm

Quantification

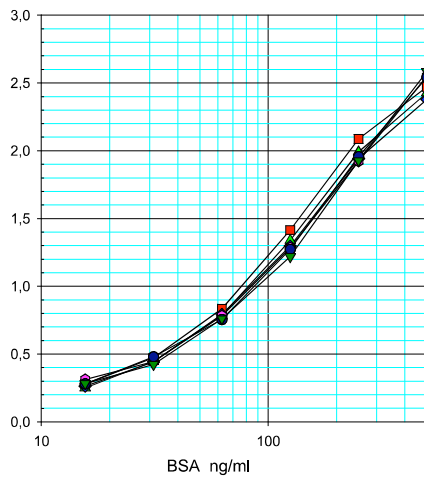
Create a calibration curve using the absorbances of the standards with BSA concentrations in the range from 15 ng/ml to 500 ng/ml.

Determine the BSA concentrations of the samples by referring their absorbances to the corresponding concentrations of the calibration curve.

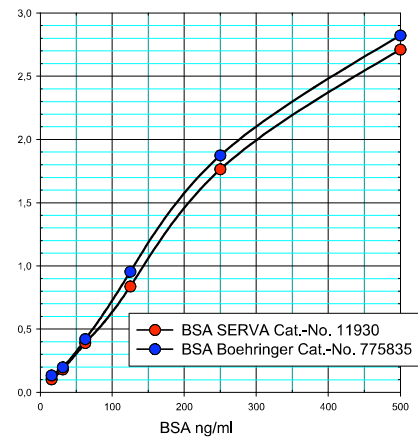
Validation

Standard S 6	absorbance	< 0.5
Standard S 1	absorbance	> 1.5
Control sample		150 - 250 ng/ml

Typical calibration curves in the Serazym® BSA ELISA



Serazym® BSA ELISA Comparison of different BSA Lots



Precision of the Serazym® ELISA

Intra-assay coefficient of variation (n =12)

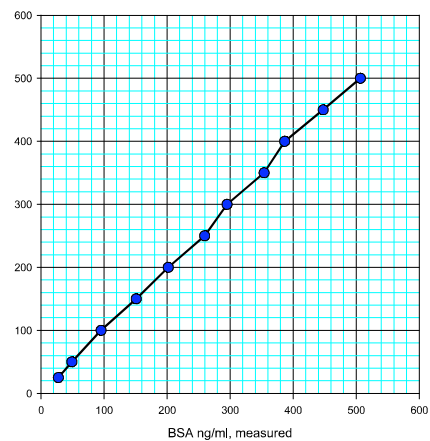
Mean absorbance	Standard deviation	Coefficient of variation [%]
2.594	0.061	2.33
2.179	0.064	2.92
1.556	0.056	3.60
1.226	0.038	3.14
0.744	0.050	6.76
0.358	0.020	5.49

BSA concentration [ng/ml]	Standard deviation	Coefficient of variation [%]
499	46.2	9.25
291	21.9	7.54
123	6.8	5.55
101	4.7	4.66
50.3	4.6	9.16
24.7	2.5	9.94

Inter-assay coefficient of variation (n = 18)

BSA concentration [ng/ml]	Standard deviation	Coefficient of variation [%]
419	42.0	10.03
313	23.6	7.56
195	16.2	8.31
97	5.7	5.89
51	3.8	7.44
29	2.6	9.06

Linearity of the Serazym® ELISA



Estimation of BSA in a cell culture medium sample (Episerf)

