Technical Data Sheet

GENERAL INFORMATION

PRODUCT	Recombinant Bovine Albumin, expressed in yeast.
Cat. No.	MT01G-S1RBSAHB
QUANTITY	1 g
DESCRIPTION	Recombinant Bovine Serum Albumin (rBSA) is a non-animal albumin, equivalent to the common Bovine Serum Albumin (BSA), although heterologously expressed in yeast cells. rBSA is not only animal-free, but also free from *Escherichia coli* DNA contaminants. Due to its higher consistency and homogeneity than its bovine homologous, its superior performance effectively blocks non-specific binding, ensuring precise and reliable results in assays.

PRODUCTS PROVIDED

Component		Amount
01G-S1RBSAHB	Recombinant Bovine Albumin.	1 vial x 10 mL

DELIVERY CONDITIONS

01G-S1RBSAHB	1 g of rBSA at 100 mg/mL in 20 mM Tris pH 7.5, 100 mM KCl, 0.1 mM EDTA, 30% glycerol.
SHIPPING CONDITIONS	This product requires cold shipment conditions. Store the protein from -20 °C to -80 °C upon arrival.
STORAGE CONDITIONS	Store at a temperature range from -20 °C to -80 °C for medium and long term. Storage at 4 °C is possible for short term. Avoid multiple freeze/thaw cycles by storing multiple aliquots.

ADDITIONAL INFORMATION

rBSA USAGE IN IMMUNOASSAYS

rBSA can replace animal-origin BSA in immunoassays, considering that rBSA performs between 20 and 100 times more efficiently than animal-origin BSA. For this reason, it is recommended to dilute rBSA 1:20-1:100 to obtain similar results compared with animal-origin BSA. Please, check the section below for more information.

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PERFORMANCE OF rBSA AS BLOCKING AGENT

BSA is a common protein used in immunoassays as a blocking agent. Since Levprot's rBSA is produced in yeast, performance of rBSA has been tested compared in several ELISAs with other animal-origin BSAs. As shown in the figure, to obtain a similar result between non-animal-derived rBSA and animal-origin BSAs, rBSA should be diluted between 20 and 100 times, to have a final concentration between 0.05 and 0.01%.

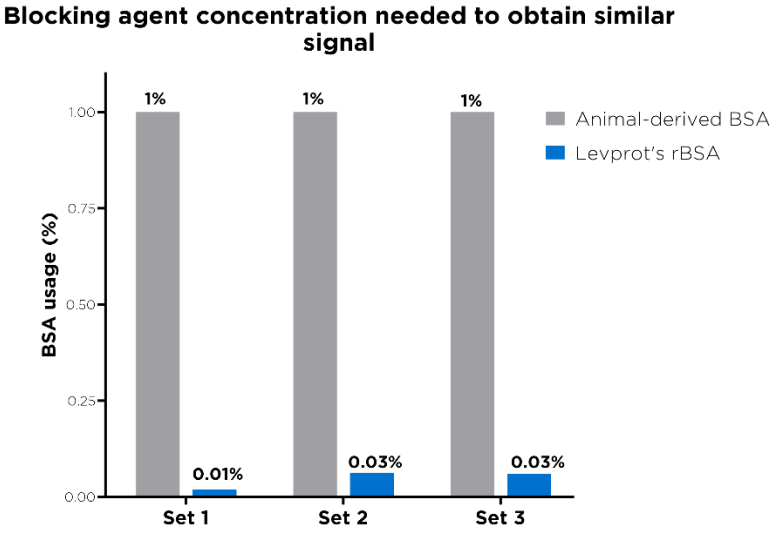

Figure. Illustration of percentage of animal-derived BSA and Levprot's rBSAnecessary to obtain a similar signal in 3 different ELISAs. Ser 1 corresponds to a sandwich ELISA, set 2 and 3 correspond to indirect ELISAs.

Since Levprot's rBSA performs higher than animal-derived BSA, non-specific signal is also evaluated at a recommended dilution. As shown in the figure below, when Levprot's rBSA is used at lower concentrations, the non-specific signal remains stable. Therefore, lower rBSA concentrations can be used while maintaining comparable levels of specific and non-specific signals in immunoassays such as ELISA.

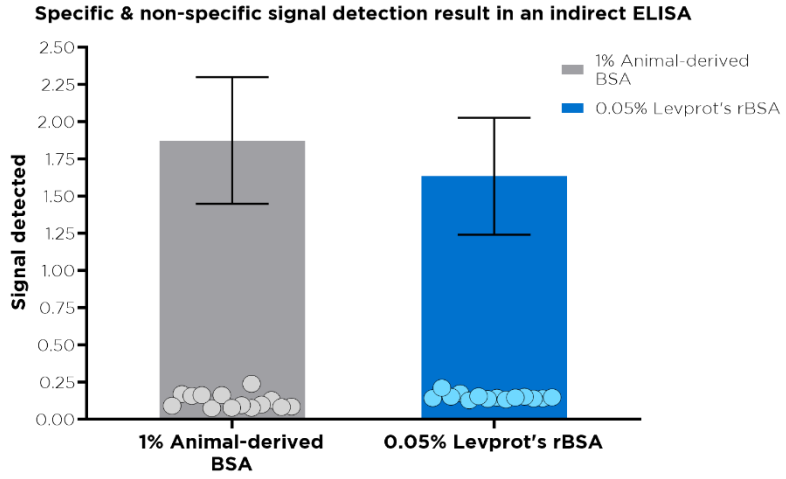

Image. Specific signal at a fixed concentration of antigen (bars) and non-specific signal detection without any antigen presence (dots). Grey bars and dots represent the values obtained with 1% of animal-derived BSA; while blue bars and dos represent the signal obtained with 0.05% of Levprot's rBSA.

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QUALITY CONTROL

PROTEIN CONCENTRATION

Concentration of rBSA is determined by UV absorption at 280 nm using the extinction coefficient of 42925 and the molecular weight of 67205 daltons.

PROTEIN PURITY

Purity is determined by the ratio of absorbance at 260 and 280 nm and by SDS-PAGE. A 260/280 ratio below 1.7 is accepted and indicates low DNA contamination compared to the protein concentration. SDS-PAGE allows verification of protein band purity, with a purity level of >90% being acceptable.

E. coli DNA CONTAMINATION

20 µg of rBSA is screened for the presence of the specific gene *ybbW* from *Escherichia coli.* A C_q value higher than 35 is accepted.

[1]Walker, David I., *et al*. "A highly specific *Escherichia coli* qPCR and its comparison with existing methods for environmental waters." *Water research* 126 (2017): 101-110.

TECHNICAL SUPPORT

If you have any questions, feel free to contact us at
support@levprot.com

Consult the Safety Data Sheet for information regarding hazards and safe handling practises.

THIS PRODUCT IS INTENDED FOR RESEARCH USE ONLY.

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REV. TDS_MT01G-S1RBSAHB rev.03

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