

## Recombinant allergen $\alpha$ -lactalbumin for *Bos domesticus* (domestic cattle)

CATALOG NUMBER: RAL0031

LOT NUMBER: #

**RECOMBINANT ALLERGEN:** *Bos domesticus* (domestic cattle)  $\alpha$ -lactalbumin (Giesin, *et al.*, 1986).

**DESCRIPTION:** Bos d 4 or  $\alpha$ -lactalbumin, one of the four major proteins of cow's milk, has been prepared as a recombinant mature allergen fused to a his-tag in its N-terminus.

**PRESENTATION:** liquid protein solution

**SOURCE:** *Escherichia coli*

**MOLECULAR WEIGHT:** determined by SDS-PAGE, there are two protein bands at the molecular marker of 45,000 Da, while relative molecular mass calculated from amino acid sequence is 48,133.80 Da.

**BATCH COMPOSITION:**

COMPONENTS	COMPOSITION
GST-His $\alpha$ -lactalbumin	recombinant allergen with a GST-his-tag
Storage buffer before lyophilisation	20 mM Hepes buffer pH 8, 0.15 M NaCl, 0.13 M trehalosa and 0.1% polyoxyethylene (10) tridecyl ether

### QUALITY CONTROL:

#### 1. PROTEIN CONCENTRATION DETERMINED ESPECTROPHOTOMETRICALLY

DO<sub>280</sub> = 1.91

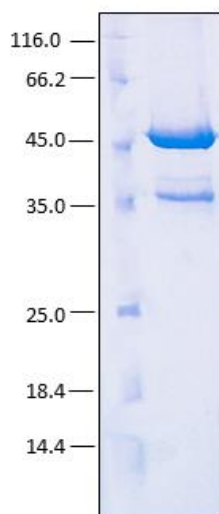
A<sub>0.1%</sub> (= 1 g/l) = 1.518

CONCENTRATION\*: 1.25 mg/ml

\* The measurement of the protein concentration has been performed with the theoretical extinction coefficient of the recombinant protein obtained from Gill and von Hippel, 1989. It is recommended that the users carry out their absorbance determinations to avoid equipment variabilities regarding final concentration, mainly in reproducibility analysis.

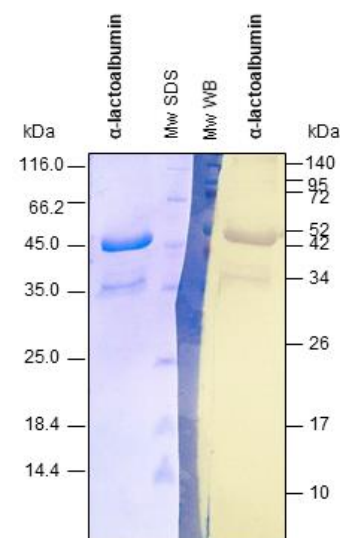
#### 2. PURITY CONTROL IN SDS-PAGE: 15%

kDa Mw  $\alpha$ -lactalbumin



**Figure 1.** SDS-PAGE analysis (15%) of 4  $\mu$ l of the recombinant allergen  $\alpha$ -lactalbumin. Purity is > 95% as determined by gel electrophoresis.

### 3. WESTERN BLOT ANALYSIS



**Figure 2.** Western blot analysis with anti-His-tag Ab. It reveals that the lower band also corresponds to the target protein.

### 4. ABSENCE OF PRECIPITATION AFTER A FREEZING AND THAWING CYCLE: ok

### LOT SPECIFICATIONS:

1. CONCENTRATION: 1.25 mg/ml

2. TOTAL QUANTITY PER ALIQUOT: 1 mg

3. TOTAL VOLUME PER ALIQUOT: 1 ml

4. **STORAGE:** Protein is shipped with dry ice. Upon arrival, it should be aliquoted to avoid repeated freezing and thawing cycles and stored at -20°C to -80°C. In order to defrost the protein, maintain the aliquot at 25°C without shaking to avoid aggregation.

5. **TESTED APPLICATIONS:** none.

6. **POSIBLE APPLICATIONS:** WB, DB, Indirect ELISA, positive control in direct ELISA, CLIA, lateral-flow. Where this product has not been tested for use in a particular technique, this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates.

7. **OBSERVATIONS:** proteins should be maintained frozen at high concentrations. In order to defrost the protein, maintain the aliquot at 25°C without shaking to avoid aggregation. Prior making test dilutions and after defrosting the protein, is recommended to remove possible protein aggregates by centrifuging the stock solution, avoiding alterations in the immobilization of the biomolecule to the solid surface.

### RELATED PRODUCTS:

$\alpha$ S1-casein,  $\beta$ -casein,  $\beta$ -lactoglobulin,  $\alpha$ S2-casein, k-casein.

## **BIBLIOGRAPHY:**

**Gjesing B, Osterballe O, Schwartz B, Wahn U, Løwenstein H.** Allergen-specific IgE antibodies against antigenic components in cow milk and milk substitutes. 1986. *Allergy*. 41(1):51-6.

**Gill SC, von Hippel PH.** Calculation of protein extinction coefficients from amino acid sequence data. *Anal Biochem*. 1989 Nov 1;182(2):319-26.

**Important Notes:** During shipment, small volumes of product will occasionally become entrapped in the seal of the product vial. For products with volumes of 200 µl or less, we recommend gently tapping the vial on a hard surface or briefly centrifuging the vial in a tabletop centrifuge to dislodge any liquid in the containers cap.

Although recombinant antigens are expressed in non-pathogenic *P. pastoris* and bacterial integrity is destroyed during purification, the antigen preparation should be handled as potentially infectious.

**FOR RESEARCH AND COMMERCIAL USE *IN VITRO*: not for human *in vivo* or therapeutic use.**