Recombinant matrix protein p15 for FIV

CATALOG NUMBER: RAG0015 **LOT NUMBER:** #

RECOMBINANT ANTIGEN: feline immunodeficiency virus (FIV) matrix protein p15 (Serrière *et al*. 2013).

DESCRIPTION: p15 is the FIV N-terminal subunit of the retroviral gag polyprotein and has been expressed as a recombinant antigen fused to a trxA and a his-tag in its N-terminus.

PRESENTATION: liquid protein solution

SOURCE: *Escherichia coli*

MOLECULAR WEIGHT: determined by SDS-PAGE, is at the molecular markers of 35,000 Da, while relative molecular mass calculated from amino acid sequence is 35577.43 Da.

BATCH COMPOSITION:

COMPONENTS	COMPOSITION
TrxA-his-p15	recombinant antigen with a his-tag in its N-terminus
Storage buffer	20 mM phosphate buffer pH 8, 0.15 M NaCl and 0.1% polyoxyethylene (10) tridecylether

QUALITY CONTROL:

1. PROTEIN CONCENTRATION DETERMINED ESPECTROPHOTOMETRICALLY

DO_{280} = 1.08
$A_{0.1\,\%}$ (=1 g/l) = 0.877
CONCENTRATION*: 1.23 mg/ml

* The measurement of the protein concentration has been performed with the theoretical extinction coefficient of the recombinant protein obtained from Gill and vonHippel, 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%

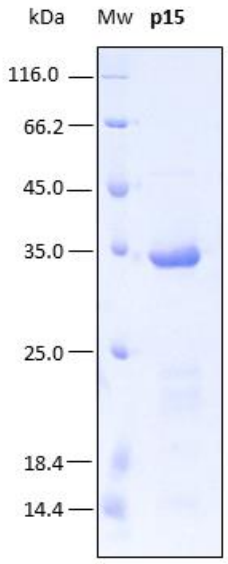

Figure 1. SDS-PAGE analysis (15%) of 3 µl of recombinant p15 FIV. Purity is >95% as determined by gel electrophoresis.

3. ANALYSIS BY ELISA ASSAY

The analysis was conducted using an in-house indirect ELISA assay. It is recommended that each end-user performs their own titration for their specific application.

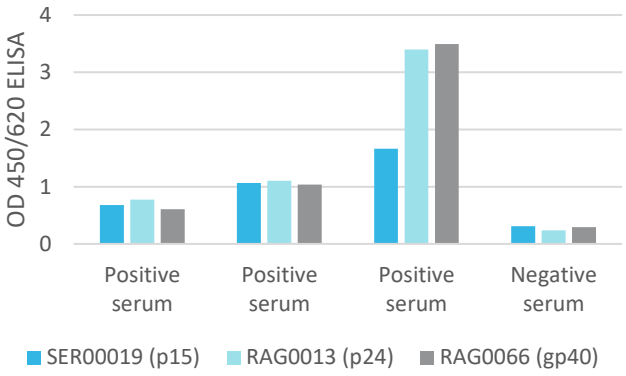

Figure 2. In this chart, we compare the optical density at 450/620 nm obtained in an IgG indirect ELISA assay for p15 (intense blue), p24 (light blue), and gp40 (grey). Proteins were coated at 1 µg/ml, and the FIV pre-validated sera (IFA) were used at a 1/100 dilution. The assay included three FIV-positive sera and one FIV-negative serum from cats.

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

LOT SPECIFICATIONS:

1. CONCENTRATION: 1.23 mg/ml

2. TOTAL QUANTITY PER ALIQUOT: 1 mg

3. TOTAL VOLUME PER ALIQUOT: 0.853 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 -20ºC to -80ºC. In order to defrost the protein, maintain the aliquot at 25ºC without shaking to avoid aggregation.

5. TESTED APPLICATIONS: ELISA

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. The dilution to be performed for ELISA assays should be made with a small quantity of protein, the same day of the experiment. In order to defrost the protein, maintain the aliquot at 25ºC 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.

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RELATED PRODUCTS:

gp40, p24.

BIBLIOGRAPHY:

Serrière, J., Robert, X., Perez, M., Gouet, P. and C. Guillon. Biophysical characterization and crystal structure of the Feline Immunodeficiency Virus p15 matrix protein. 2013 Retrovirology, 10:64.

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 *E. coli* 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.

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