Rat Fructosamin (FRA) ELISA Kit

Cat. No. KITG-030 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	This ELISA kit uses the double antibody sandwich enzyme-linked immunosorbent assay (ELISA). Pre-coated microplates with FRA antibody are used. Samples, standards, and HRP-labeled detection antibody are added sequentially to the wells. After incubation and thorough washing, TMB substrate is added for color development. TMB is converted to blue under the catalysis of peroxidase and then to yellow after the addition of stop solution. The intensity of the color is positively correlated with the concentration of fructosamine (FRA) in the sample. The absorbance (OD value) is measured at 450 nm using a microplate reader, and the sample concentration is calculated based on the standard curve.
Species	Rat
Description	This ELISA kit uses the double antibody sandwich enzyme-linked immunosorbent assay (ELISA). Pre-coated microplates with FRA antibody are used. Samples, standards, and HRP-labeled detection antibody are added sequentially to the wells. After incubation and thorough washing, TMB substrate is added for color development. TMB is converted to blue under the catalysis of peroxidase and then to yellow after the addition of stop solution. The intensity of the color is positively correlated with the concentration of fructosamine (FRA) in the sample. The absorbance (OD value) is measured at 450 nm using a microplate reader, and the sample concentration is calculated based on the standard curve.
Form	Colorimetric ELISA Kit (96-well plate)

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Applications	Quantitative detection of Rat Fructosamine (FRA) in serum, plasma, cell culture supernatant, and tissue homogenate. For research use only. Not for use in diagnostic procedures.
Notes	Kit Components: Microelisa Stripplate: 12 × 8 strips (96 determinations) / 12 × 4 strips (48 determinations) Standard: 0.3 mL × 6 tubes (96 determinations) / 0.3 mL × 6 tubes (48 determinations) Sample Diluent: 6 mL (96 determinations) / 3 mL (48 determinations) HRP-Conjugate Reagent: 10 mL (96 determinations) / 5 mL (48 determinations) 20× Wash Solution: 25 mL (96 determinations) / 15 mL (48 determinations) — Dilute before use Chromogen Solution A: 6 mL (96 determinations) / 3 mL (48 determinations) Chromogen Solution B: 6 mL (96 determinations) / 3 mL (48 determinations) Stop Solution: 6 mL (96 determinations) / 3 mL (48 determinations) Closure Plate Membrane: 2 pieces (96 determinations) / 2 pieces (48 determinations) User Manual: 1 copy (96 determinations) / 1 copy (48 determinations) Sealed Bag: 1 piece (96 determinations) / 1 piece (48 determinations) Note: Standard (S0–S5) concentrations are: 0, 200, 400, 800, 1600, 3200 μmol/L Sample Collection, Processing and Storage: 1. Serum: Use tubes without pyrogen and endotoxin. Avoid any cellular stimulation during operation. After blood collection, centrifuge at 3000 rpm for 10 minutes to separate serum from red blood cells. 2. Plasma: Use EDTA, citrate, or heparin as anticoagulant. Centrifuge at 3000 rpm for 30 minutes to collect the plasma. 3. Cell culture supernatant: Centrifuge at 3000 rpm for 10 minutes to remove particles and collect the supernatant. 4. Tissue homogenate: Add appropriate amount of physiological saline to the tissue and homogenize. Centrifuge at 3000 rpm for 10 minutes to collect the supernatant. 5. Storage: If samples cannot be tested immediately, aliquot into single-use portions and store at -20°C. Avoid repeated freeze-thaw cycles. Thaw at room temperature and ensure samples are uniformly and completely thawed before use. Reagent Preparation: 20× Wash Solution Dilution: Dilute with distilled water at a ratio of 1:20, i.e., 1 part of 20× wash solution plus 19 parts of distilled water. Washing Procedure: 1. Manual washing: Discard the liquid in the wells completely. Fill each well with wash solution. Stand for 1 minute, then discard the liquid. Pat dry on absorbent paper. Repeat this washing p

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rocedure 5 times. 2. Automatic microplate washer: Inject 350 µL of wash solution into each well, soak for 1 minute, and wash 5 times. Assay Procedure: 1. Remove the req uired strips from the aluminum foil bag after room temperature equilibration for 20 min utes. Return the remaining strips to the sealed bag and store at 4°C. 2. Set up standa rd wells and sample wells. Add 50 µL of different concentrations of standards to each standard well. 3. Add 10 µL of sample to each sample well, then add 40 µL of sample diluent. Do not add anything to blank wells. 4. Add 100 µL of HRP-conjugated detecti on antibody to each well except blank wells. Cover the plate with a closure plate mem brane and incubate at 37°C water bath or incubator for 60 minutes. 5. Discard the liqu id, pat dry on absorbent paper. Fill each well with wash solution, stand for 1 minute, di scard the wash solution, and pat dry. Repeat this washing procedure 5 times (an auto matic washer may also be used). 6. Add 50 µL of chromogen solution A and 50 µL of chromogen solution B to each well. Mix gently and incubate at 37°C protected from lig ht for 15 minutes. 7. Add 50 µL of stop solution to each well. The color in the wells sh ould change from blue to yellow. Read the optical density (OD) at 450 nm within 15 m inutes using a microplate reader. Calculation of Results: Plot a standard curve: In an Excel worksheet, use the standard concentration as the X-axis and the corresponding OD value as the Y-axis to generate a linear regression standard curve. Calculate the concentration of each sample using the curve equation. Note: The S0 standard with c oncentration of 0 can be regarded as negative control or blank. When operating accor ding to the instructions, the sample has been diluted 5-fold; multiply the final result by 5 to obtain the actual sample concentration. Precautions: 1. Store the kit at 2-8°C. Bri ng to room temperature for 20 minutes before use. The concentrated wash solution m ay crystallize when taken out from the refrigerator; this is normal. Warm in a water bat h to completely dissolve the crystals before use. 2. Unused strips should be immediat ely returned to the sealed bag and stored sealed (at low temperature and dry conditio ns). 3. The S0 standard with concentration of 0 can be regarded as negative control o r blank. When operating according to the instructions, the sample has been diluted 5-f old; multiply the final result by 5 to obtain the actual sample concentration. 4. Strictly f

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	ollow the time, volume, and sequence of incubation operations as indicated in the instructions. 5. Shake all liquid components well before use. 6. This kit is for research use only and is not intended for clinical diagnosis or human experimentation. 7. Strictly follow the instructions for operation. The user is responsible for any consequences resulting from failure to follow the procedures described in this manual. Materials Required but Not Supplied: 1. Microplate reader (450 nm) 2. Precision pipettes and disposable pipette tips: 0.5-10 µL, 2-20 µL, 20-200 µL, 200-1000 µL Kit Performance: 1. Accuracy: The correlation coefficient (R^2) of standard linear regression is ≥ 0.9900. 2. Sensitivity: The minimum detectable concentration is less than 50 µmol/L. 3. Specificity: No cross-reactivity with other soluble structural analogs. 4. Repeatability: Intra-assay and inter-assay coefficients of variation are both less than 15%. 5. Storage: Store at 2-8°C, protected from light and moisture. 6. Shelf Life: 6 months.
Storage	Store at 2-8°C, protected from light and moisture. Valid for 6 months.
Shipping	Shipped at ambient temperature.
EC	20× Wash Solution (dilute 1:20 with distilled water)
Storage Buffer	20× Wash Solution (dilute 1:20 with distilled water)
Labeling Efficiency	For research use only. Not for use in diagnostic procedures.

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