

Datasheet for ABIN625036

LIF ELISA Kit**1** Image**4** Publications[Go to Product page](#)

Overview

Quantity: 96 tests

Target: LIF

Reactivity: Human

Method Type: Sandwich ELISA

Detection Range: 15-6000 pg/mL

Minimum Detection Limit: 15 pg/mL

Application: ELISA

Product Details

Purpose: Human LIF ELISA Kit for cell culture supernatants, plasma, and serum samples.

Sample Type: Plasma, Cell Culture Supernatant, Serum

Analytical Method: Quantitative

Detection Method: Colorimetric

Specificity: This ELISA kit shows no cross-reactivity with any of the cytokines tested: Human Angiogenin, BDNF, BLC, ENA-78, FGF-4, IL-1 alpha, IL-1 beta, IL-2, IL-3, IL-4, IL-5, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12 p70, IL-12 p40, IL-13, IL-15, I-309, IP-10, G-CSF, GM-CSF, IFN-gamma, Leptin, MCP-1, MCP-2, MCP-3, MDC, MIP-1 alpha, MIP-1 beta, MIP-1 delta, PARC, PDGF, RANTES, SCF, TARC, TGF-beta, TIMP-1, TIMP-2, TNF-alpha, TNF-beta, TPO, VEGF.

Sensitivity: 15 pg/mL

Characteristics:

- Strip plates and additional reagents allow for use in multiple experiments

Product Details

- Quantitative protein detection
- Establishes normal range
- The best products for confirmation of antibody array data

- Components:
- Pre-Coated 96-well Strip Microplate
 - Wash Buffer
 - Stop Solution
 - Assay Diluent(s)
 - Lyophilized Standard
 - Biotinylated Detection Antibody
 - Streptavidin-Conjugated HRP
 - TMB One-Step Substrate

- Material not included:
- Distilled or deionized water
 - Precision pipettes to deliver 2 μ L to 1 μ L volumes
 - Adjustable 1-25 μ L pipettes for reagent preparation
 - 100 μ L and 1 liter graduated cylinders
 - Tubes to prepare standard and sample dilutions
 - Absorbent paper
 - Microplate reader capable of measuring absorbance at 450nm
 - Log-log graph paper or computer and software for ELISA data analysis

Target Details

Target: LIF

Alternative Name: LIF ([LIF Products](#))

Background: LIF (Leukocyte inhibitory factor) is produced by various fibroblast cell lines, antigen-stimulated alloreactive T-lymphocytes, mitogen-activated spleen cells, and Krebs and Ehrlich ascites cells. It is also produced by monocytes after cell activation. This factor inhibits the random and directed migration of polymorphonuclear (PMN) leukocytes. LIF also induces specific granule secretion by PMNs and potentiates many responses mediated by the chemotactic compound fMLP (formyl-methionyl-leucyl-phenylalanine). It activates human neutrophils and macrophages to release leukotriene B4 and thromboxanes. The Human LIF ELISA (Enzyme-Linked Immunosorbent Assay) kit is an in vitro enzyme-linked immunosorbent assay for the quantitative measurement of human LIF in serum, plasma, cell culture supernatants and urine. This assay employs an antibody specific for human LIF coated on a 96-well plate. Standards and samples are pipetted into the wells and LIF present in a sample is bound to the wells by the immobilized antibody. The wells are washed and biotinylated anti-human LIF antibody is added. After washing away unbound biotinylated antibody, HRP-conjugated streptavidin is pipetted to

Target Details

the wells. The wells are again washed, a TMB substrate solution is added to the wells and color develops in proportion to the amount of LIF bound. The Stop Solution changes the color from blue to yellow, and the intensity of the color is measured at 450 nm. Reproducibility: Intra-Assay: CV<10% Inter-Assay: CV<12%.

Gene ID: 3976

UniProt: [P15018](#)

Pathways: [JAK-STAT Signaling](#), [Positive Regulation of Peptide Hormone Secretion](#), [Negative Regulation of Hormone Secretion](#), [Stem Cell Maintenance](#), [Growth Factor Binding](#)

Application Details

Application Notes: Recommended Dilution for serum and plasma samples 2 fold

Sample Volume: 100 µL

Plate: Pre-coated

Protocol:

1. Prepare all reagents, samples and standards as instructed in the manual.
2. Add 100 µL of standard or sample to each well.
3. Incubate 2.5 h at RT or O/N at 4 °C.
4. Add 100 µL of prepared biotin antibody to each well.
5. Incubate 1 h at RT.
6. Add 100 µL of prepared Streptavidin solution to each well.
7. Incubate 45 min at RT.
8. Add 100 µL of TMB One-Step Substrate Reagent to each well.
9. Incubate 30 min at RT.
10. Add 50 µL of Stop Solution to each well.
11. Read at 450 nm immediately.

Reagent Preparation:

1. Bring all reagents and samples to room temperature (18 - 25°C) before use.
2. Sample dilution: If your samples need to be diluted, Assay Diluent A (Item D) is used for dilution of serum/plasma samples, and Assay Diluent B (Item E) is used for dilution of culture supernatants and urine.
3. Assay Diluent B should be diluted 5-fold with deionized or distilled water.
4. Preparation of standard: Briefly spin the vial of Item C and then add 400 µl Assay Diluent A (for serum/plasma samples) or 1x Assay Diluent B (for cell culture medium and urine) into Item C vial to prepare a 25 ng/ml standard. Dissolve the powder thoroughly by a gentle mix. Add 120 µl LIF standard from the vial of Item C, into a tube with 380 µl Assay Diluent A or 1x Assay Diluent B to prepare a 6,000 pg/ml stock standard solution. Pipette 400 µl Assay Diluent A or 1x Assay Diluent B into each tube. Use the stock standard solution to produce a dilution

series (shown below). Mix each tube thoroughly before the next transfer. Assay Diluent A or 1x Assay Diluent B serves as the zero standard (0 pg/ml). 5. If the Wash Concentrate (20x) (Item B) contains visible crystals, warm to room temperature and mix gently until dissolved. Dilute 20 ml of Wash Buffer Concentrate into deionized or distilled water to yield 400 ml of 1x Wash Buffer. 6. Briefly spin the Detection Antibody vial (Item F) before use. Add 100 µl of 1x Assay Diluent B into the vial to prepare a detection antibody concentrate. Pipette up and down to mix gently (the concentrate can be stored at 4°C for 5 days). The detection antibody concentrate should be diluted 80-fold with 1x Assay Diluent B and used in step 4 of Part VI Assay Procedure. 7. Briefly spin down the HRP-Streptavidin concentrate vial (Item G) and down to mix gently before use. HRP-Streptavidin concentrate should be diluted 16,000-fold with 1x Assay Diluent B. For example: Briefly spin the vial (Item G) and pipette up and down to mix gently. Add 2 µl of HRP-Streptavidin concentrate into a tube with 198.0 µl 1x Assay Diluent B to prepare a 100-fold diluted HRP-Streptavidin solution (do not store the diluted solution for next day use). Mix through and then pipette 100 µl of prepared 100-fold diluted solution into a tube with 16 ml 1x Assay Diluent B to prepare a final 16,000 fold diluted HRP-Streptavidin solution.

Assay Procedure:

1. Bring all reagents and samples to room temperature (18 - 25°C) before use. It is recommended that all standards and samples be run at least in duplicate. 2. Add 100 µl of each standard (see Reagent Preparation step 2) and sample into appropriate wells. Cover well and incubate for 2.5 hours at room temperature or over night at 4°C with gentle shaking. 3. Discard the solution and wash 4 times with 1x Wash Solution. Wash by filling each well with Wash Buffer (300 µl) using a multi-channel Pipette or autowasher. Complete removal of liquid at each step is essential to good performance. After the last wash, remove any remaining Wash Buffer by aspirating or decanting. Invert the plate and blot it against clean paper towels. 4. Add 100 µl of 1x prepared biotinylated antibody (Reagent Preparation step 6) to each well. Incubate for 1 hour at room temperature with gentle shaking. 5. Discard the solution. Repeat the wash as in step 3. 6. Add 100 µl of prepared Streptavidin solution (see Reagent Preparation step 7) to each well. Incubate for 45 minutes at room temperature with gentle shaking. 7. Discard the solution. Repeat the wash as in step 3. 8. Add 100 µl of TMB One-Step Substrate Reagent (Item H) to each well. Incubate for 30 minutes at room temperature in the dark with gentle shaking. 9. Add 50 µl of Stop Solution (Item I) to each well. Read at 450 nm immediately.

Calculation of Results:

Calculate the mean absorbance for each set of duplicate standards, controls and samples, and subtract the average zero standard optical density. Plot the standard curve on log-log graph paper or using Sigma plot software, with standard concentration on the x-axis and absorbance on the y-axis. Draw the best-fit straight line through the standard points.

Restrictions:

For Research Use only

Handling

Storage: -20 °C

Storage Comment: The entire kit may be stored at -20°C for up to 1 year from the date of shipment. Avoid repeated freeze-thaw cycles. The kit may be stored at 4°C for up to 6 months. For extended storage, it is recommended to store at -80°C.

Expiry Date: 6 months

Publications

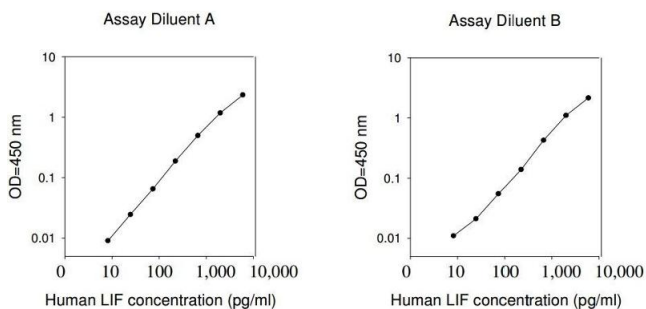
Product cited in: Krishnan, Winship, Sonderegger, Menkhorst, Horne, Brown, Zhang, Nicola, Tong, Dimitriadis: "The role of leukemia inhibitory factor in tubal ectopic pregnancy." in: **Placenta**, Vol. 34, Issue 11, pp. 1014-9, (2013) ([PubMed](#)).

Li, Liu, Zhao, Wen, Zhang: "Manipulating neural-stem-cell mobilization and migration in vitro." in: **Acta biomaterialia**, Vol. 8, Issue 6, pp. 2087-95, (2012) ([PubMed](#)).

Shuya, Menkhorst, Yap, Li, Lane, Dimitriadis: "Leukemia inhibitory factor enhances endometrial stromal cell decidualization in humans and mice." in: **PLoS ONE**, Vol. 6, Issue 9, pp. e25288, (2012) ([PubMed](#)).

Ball, Li, Li, Lin: "The small molecule, LLL12, inhibits STAT3 phosphorylation and induces apoptosis in medulloblastoma and glioblastoma cells." in: **PLoS ONE**, Vol. 6, Issue 4, pp. e18820, (2011) ([PubMed](#)).

Images



ELISA

Image 1.