APA085Bo62 100μg
Active Leukemia Inhibitory Factor (LIF)
Organism Species: *Bos taurus; Bovine (Cattle)*
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Ser23~Ala196
Tags: N-terminal His-tag
Purity: >90%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 200μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 9.3
Predicted Molecular Mass: 20.8kDa
Accurate Molecular Mass: 36kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:

1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C for 12 months.

Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the protein at 37°C for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

SPLPITPV NATCATRHPC PSNLMNQIRN QLGQLNSSAN SLFILYYTAQ GEPFPNNLDK
LCSPNVTDFP PFHANATEKA RLVELYRIIA YLGASLGNIT RDQKVLNPYA HGLHSKLSTT
ADVLRGLLSN VLCRLCSKYH VSHVDVTYGP DTSGKDVFQK KKLGCQLLGK YKQVIA

[ACTIVITY]

Leukemia Inhibitory Factor (LIF) is a multifunctional cytokine belonging to the interleukin-6 (IL-6) family. First identified in 1987 for its ability to inhibit the proliferation of myeloid leukemia cells and induce their differentiation, LIF is now recognized for broader biological roles. It is produced by various cell types, including fibroblasts, endothelial cells, and immune cells like T lymphocytes and macrophages. Beyond hematology, LIF plays critical roles in embryonic development—supporting the self-renewal of embryonic stem cells in mice—and tissue repair, inflammation regulation, and neural function. Its signaling occurs via binding to a heterodimeric receptor complex, activating downstream pathways like JAK-STAT and MAPK. Dysregulated LIF expression has been linked to diseases such as cancer, autoimmune disorders, and neurodegenerative conditions, making it a potential therapeutic target.Besides,IL5RA has been identified as an

interactor of LIF, thus a functional binding ELISA assay was conducted to detect the interaction of recombinant human LIF and recombinant human IL5RA.Briefly, biotin-linked LIF were diluted serially in PBS, with 0.01% BSA (pH 7.4). Duplicate samples of 100μl were then transferred to IL5RA-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST 3 times and incubation with Streptavidin-HRP for 30min, then wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50μl stop solution to the wells and read at 450nm immediately. The binding activity of LIF and IL5RA was shown in Figure 1, the EC50 for this effect is 0.37163μg/mL.

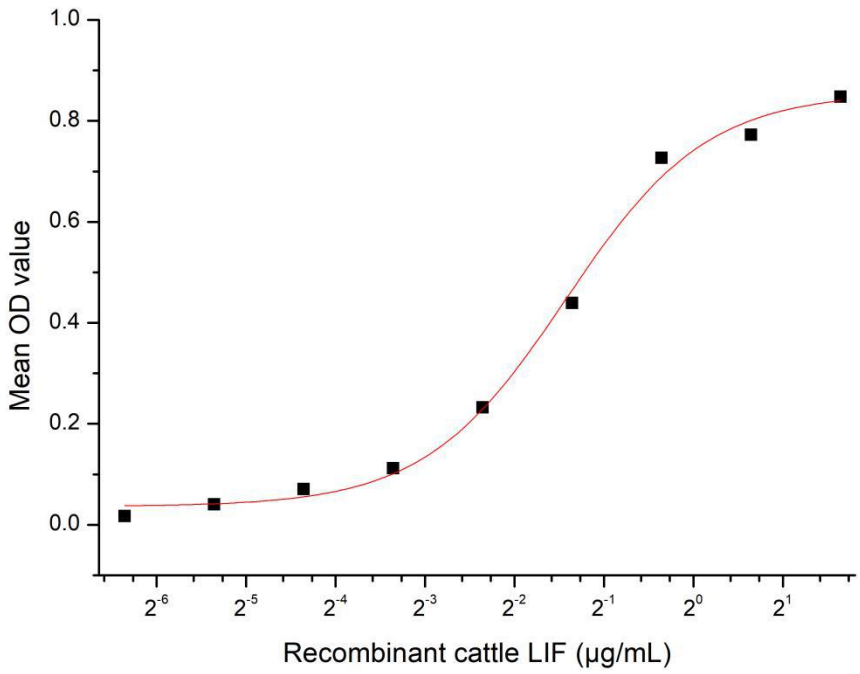


Figure 1. The binding activity of IL5RA and LIF

[IDENTIFICATION]

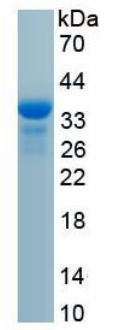


Figure 2. SDS-PAGE

Sample: Active recombinant LIF, Cattle

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.