STATEMENT OF WORK

1. DEFINITIONS
   A. Samples - sera, tissue culture fluids, and various primate or human body fluids provided by the Government for testing.
   B. pg – picogram
   C. ml – milliliter
   D. ng - nanogram
   E. ELISA - Enzyme-Linked ImmunoSorbent Assay
   F. GLP – Good Laboratory Practices
   G. GMP – Good Manufacturing Procedures

2. **Task I – ELISA for the determination of human soluble IL-2 receptor alpha (sIL-2Rα).**

   A. The contractor shall perform approximately 150 (100–200) determinations of sIL-2Rα levels per year on sera, tissue culture fluids, and various body fluids by ELISA assay.

   B. The method used for these ELISA determinations must be capable of detecting sIL-2Rα with a sensitivity of 300 picograms (pg) per milliliter (ml). ELISA OD values shall be converted to pg per ml. A commercial kit is suitable for this task.

   C. The NCI will provide a positive control for the assay.

   D. The results of the ELISA shall be delivered in accordance with ARTICLE F.1 DELIVERIES. Each ELISA report must include a **semi-log plot** of the standard curve generated for that assay, and must also include the raw sample data obtained. If a sample value is deemed to lie in an area of the standard curve that does not reflect a linear relationship, that sample must be re-diluted and re-assayed until a satisfactory value is determined that falls within the linear portion of the curve.

   Note: The Contractor shall assume that 150 determinations shall be performed. The assays in Task I can be performed on batches of samples and not in real time.

3. **Task II –Tests for human or monkey antibodies to murine, and/or humanized monoclonal antibodies, and/or the human cytokine IL-15 in patients treated with such agents.**

A. The Contractor shall perform assays for monkey or human antibodies to the human cytokine IL-15, and shall perform assays for both monkey and/or human antibodies to both murine and humanized monoclonal antibodies (e.g. humanized anti-Tac and humanized Mik-Beta-1) by antigen-bridging ELISAs, on 300 to 500 serum samples provided by the NCI each year.

B. The methodology to be used for the detection of *in vivo* antibodies developed against the therapeutically infused monoclonal antibodies and to IL-15 in the serum of patients or research animals will be provided by the Project Officer (See Proc Natl Acad Sci 1999; 96:7462-7466)

C. Assays shall be performed on individual patient serums in duplicate with a standard curve using immune sera provided by the NCI.

D. The sensitivity of the assays in Task II must be equal to, or greater than, 500 nanograms per milliliter in patient sera when the sera are diluted 1 to 3.

E. Each monoclonal antibody or the GLP/GMP produced IL-15 used as a therapeutic, research, or toxicology study agent, shall have its own specific assay.

F. The Contractor shall perform assays for the detection of *in vivo* antibodies produced against each of the following:
   1) GLP or GMP IL-15
   2) humanized anti-Tac antibody
   3) humanized Mik-Beta-1 antibody
   4) murine 7G7/B6 antibody
   5) other therapeutic monoclonal antibodies as directed by the Project Officer.

G. The monoclonal antibodies or the GLP/GMP IL-15 will be supplied by NCI for use in these studies.

H. The Contractor shall biotinylate the monoclonal antibodies and IL-15 where necessary.

I. Assays shall be performed and results shall be delivered in accordance with ARTICLE F.1. DELIVERIES. Each ELISA report must include a **semi-log plot** of the standard curve generated for that assay, and must also include the raw sample data obtained. If a sample value is deemed to lie in an area of the standard curve that does not reflect a linear relationship, that sample must be re-diluted and re-assayed until a satisfactory value is determined that falls within the linear portion of the curve.

Note: For the purposes of estimating costs, the contractor shall assume that 400 serum samples will be assayed for human or monkey antibodies to murine or human

monoclonal antibody, or to human GLP/GMP IL-15, each year. There are no commercial assay kits available for the measurement of human antibodies to humanized monoclonal antibodies (HAHA), for monkey antibodies to humanized monoclonal antibodies (MAHA), or for human or monkey antibodies to human GLP/GMP IL-15.

4. **Task III –Tests for concentration of clinically infused monoclonal antibody.**

The contractor shall assay 200 to 400 serum samples each year for their concentration of an infused monoclonal antibody (e.g., Hu-Mik-*B*eta-1) using a competition ELISA. The levels of infused monoclonal antibody huMik*B*-1 in the sera of patients undergoing therapy are determined using a specific, competitive inhibition ELISA. In brief, plates are coated with an affinity purified goat anti-huMik*B*1, washed and blocked. A measured amount of patient sera of huMik*B*1 antibody standard is then added to each well, immediately followed by a constant amount of biotin conjugated huMik*B*-1. After incubation and washing, the plates are developed as in Task II. The unknown levels of infused huMik*B*1 in the patient sera are calculated by comparison to a standard curve prepared from known amounts of huMik*B*1. The unlabeled huMik*B*1 in the patient samples or standard curve will compete with biotinylated huMikB1 for binding to the anti-huMik*B*1 coated wells, resulting in color development which is inversely proportional to the amount of unlabeled huMik*B*1 present. The contractor will provide the affinity purified goat anti-huMik*B*1 reagent used in this assay.

A. The sensitivity of this assay must be equal to or greater than 300 nanograms per milliliter in patient sera diluted 1 to 3.

B. Reports of these assays shall be delivered in accordance with ARTICLE F.1. DELIVERIES. Each ELISA report must include a **semi-log plot** of the standard curve generated for that assay, and must also include the raw sample data obtained. If a sample value is deemed to lie in an area of the standard curve that does not reflect a linear relationship, that sample must be re-diluted and re-assayed until a satisfactory value is determined that falls within the linear portion of the curve.

Note: For the purposes of analyzing costs, the Contractor shall assume approximately 300 serum samples per year shall be analyzed for the concentration of clinically infused human monoclonal antibodies.

5. **Task IV – ELISA for serum IL-15 concentrations following infusion of human GLP/GMP produced IL-15**

A. The Contractor shall perform 150 – 250 ELISAs for serum IL-15 concentrations following infusion of human GLP/GMP produced IL-15 in monkey and/or human sera. The GLP or GMP produced IL-15 to be used for these assays will be

provided by the NCI. A commercial ELISA kit with a sensitivity of 3 pg/ml is suitable for this task.

B. Reports of these assays shall be delivered in accordance with ARTICLE F.1. DELIVERIES. Each ELISA report must include a **semi-log plot** of the standard curve generated for that assay, and must also include the raw sample data obtained. If a sample value is deemed to lie in an area of the standard curve that does not reflect a linear relationship, that sample must be re-diluted and re-assayed until a satisfactory value is determined that falls within the linear portion of the curve.

Note: Determinations on approximately 200 samples of serum IL-15 by ELISA will be required per year. It is estimated this will utilize approximately 40 plates.

TASK IV above need not be performed in real time but will be performed approximately monthly.

6. **Task V – Pickup, Delivery, and Storage of Samples**

A. All samples received for testing under this contract shall picked up by the Contractor from the NCI within 24 hours of request for testing.

Note: For the purposes of estimating costs, offerors should assume that five (5) trips per week between the Contractor and the NCI will be required for this task.

B. The Contractor shall maintain a running log record of all samples received. This log shall contain the following information:

1) NCI Sample ID which NCI provides
2) Contractor Sample Id
3) Sample Draw Date
4) List of the assays requested for that sample

C. The Contractor shall maintain an inventory record of all samples. This record shall contain the following information:

1) NCI Sample ID which NCI provides
2) Contractor Sample ID
3) Sample Draw Date

D. The Contractor shall house and maintain all sera, antisera, antigens, culture supernatants, and other reagents and materials supplied under this contract. In addition, all materials previously supplied under prior work shall be housed and

maintained by the contractor. Supernatants shall be stored at or below minus 20 degrees Celsius. Other reagents are to be stored as per the manufacturer's instructions. Reagents prepared for specific assays should be given a shelf life and a storage condition that should also be listed in the reagent preparation section of each SOP the Contractor follows. Sera from NCI is to be stored at -20°C

NOTE: Offerors should assume the storage requirements for this contract are approximately 40,000 frozen supernatant samples requiring 60 cubic feet of storage at or below 20 degrees Celsius.

7. TASK VI - Record Keeping and Monitoring

A. The Contractor shall maintain a copy of all assays and assay results.

B. The Contractor shall record and maintain a record of the method employed for the analysis of all samples received during this contract. The Contractor shall retain one (1) copy of the method employed for the analysis of all samples received during this contract. In addition, a copy of the method employed for each assay shall be delivered in accordance ARTICLE F.1. DELIVERIES.

C. The Contractor shall be available at its site for quality control monitoring by NCI staff as needed during normal (8 am to 5 pm, Mon. through Friday, excluding Federal Holidays) business hours.

D. The Contractor shall meet with the Project Officer and other NCI officials at the NCI to review progress when requested by the Project Officer.

Note: For the purposes of estimating costs, offerors should assume that 2 (two) meetings per year shall occur.

F.1. DELIVERIES

Satisfactory performance of the final contract shall be deemed to occur upon performance of the work described in the STATEMENT OF WORK Article in SECTION C of this contract and upon delivery and acceptance by the Contracting Officer, or the duly authorized representative, of the following items in accordance with the stated delivery schedule:

a. The items specified below as described in the REPORTING REQUIREMENTS Article in SECTION C of this contract will be required to be delivered F.o.b. Destination as set forth in FAR 52.247-35, F.o.b. DESTINATION, WITHIN CONSIGNEES PREMISES (APRIL 1984), and in accordance with and by the dates specified below and any specifications stated in SECTION D, PACKAGING, MARKING AND SHIPPING, of this contract:

Item	Description	Quantity	Delivery Schedule
(1)	Results from assays as specified in the SOW, paragraph 2.D.		Within 30 calendar days hours of receipt of the sample
(2)	Results from assays as specified in the SOW, paragraph 3.I.		Within 72 hours of receipt of the sample
(3)	Results from assays as specified in the SOW, paragraph 4.C.		Within 30 calendar days hours of receipt of the sample
(4)	Results from assays as specified in the SOW, paragraph 5.B.		Within 30 calendar days hours of receipt of the sample
(5)	Sample log as specified in the SOW, paragraph 6.B.		Every 90 calendar days in the quarterly report
(6)	Record of Assay Methods as specified in the SOW paragraph 8.B.		Sixty days after start of contract; when requested by PO during contract, and sixty days before the termination of the contract

MANDATORY EVALUATION FACTORS:

The Contractor must have biocontainment facilities (BSL-2) to conduct work *in vitro* with human and nonhuman primate viruses (SIV and HTLV-I).

The contractor must provide a CLIA(Clinical laboratory Improvement Amendments) Laboratory Certificate of Compliance for laboratories where work of this contract shall be performed. The contractor will be expected to maintain CLIA compliance throughout the term of the contract.