Statement of Work

"Re-Synthesis of Compounds for Screening"

a. Re-Synthesis Requirement

The Contractor shall synthesize, purify, characterize, and submit to the Drug Synthesis and Chemistry Branch (DSCB) target compounds of high purities, as specified by the Contracting Officer Technical Representative (COTR), and small libraries of analogs of lead compounds as needed. A target compound is defined as one that is assigned by the COTR for synthesis, purity evaluation or determination of physico-chemical properties such as stability, solubility characteristics and spectroscopic data. Well-established chemistry from the synthetic or medicinal chemistry literature or patents will be applied to synthesize the needed target compounds and libraries. As such, the contract is not research oriented to produce new science, but purposeful improvements by effectively utilizing existing methods or modifications in a cost-effective manner to accomplish the synthetic goals. Projects will be assigned, monitored and terminated consistent with the needs of the program. The overall performance and accomplishments of the contract will be measured based on the complexities of the target compound assigned for synthesis, the responsiveness of the contractor to the needs of the program, the chosen synthetic approach (approaches), times of delivery, both quality and quantity of the delivered compounds, and cost effectiveness.

The NCI expects that 15 to 25 syntheses of compounds, both synthetics and natural products, will be synthesized each year during the contract period of five (5) years.

b. Description of Work

The Contractor shall perform the following functions:

i. Prepare, through chemical synthesis, samples of assigned chemical compounds and as necessary carry out process development required to obtain those compounds.

ii. Prepare the assigned compounds on a scale commensurate with the sample size requested. The initial synthetic procedure to be used shall be that provided with the assignment, if such is available. The COTR's approval is required for deviations which involve a change in the synthetic route. When no specific procedure or suggested synthetic route is provided for an assignment, the Contractor shall provide one for the COTR's approval prior to starting work.

iii. Arrange synthesis assignments to fit the priorities assigned by the COTR.

iv. Deliver assigned synthesis targets to the NCI in agreed upon amounts generally in the range of 200 mg to 100 grams, and within agreed upon time frames.

v. Provide samples of intermediates and characterized byproducts to the NCI as requested by the COTR.

vi. Characterize compounds to be submitted to NCI for purity by a chromatographic method, and for chemical identity and purity by ^{1}H NMR, IR, UV, MS, elemental analysis, and when requested by the COTR, ^{13}C NMR.

vii. Provide data sheets and preparative methods for all materials sent to NCI. The description of preparative methods shall be sufficiently detailed to permit others to use them as directions for the preparations.

viii. Provide Material Safety Data Sheets (MSDS) for all compounds delivered to NCI in accordance with (See MSDS Attachment).

ix. Provide detailed time and materials cost data for specific assigned compounds.

x. On specific assignment from the COTR

a) Procure and further characterize compounds available from commercial sources.

b) Perform storage stability studies on selected assigned compounds to help select storage and/or shipping conditions.

c) Perform solubility determinations on selected assigned compounds.

Safety

A. The compounds targeted for synthesis should be considered toxic and shall be handled accordingly. Thus, the synthetic chemists shall routinely use optimally working hoods, safety glasses, disposable gloves, dust masks, aprons, and related personal protective equipment (PPE).

B. The Contractor shall comply with OSHA regulations including those promulgated by the Secretary of Labor under the Williams-Steiger Occupational Safety and Health Act of 1970. A determination of compliance shall be made before award.

C. Contractor shall be in compliance with Environmental Protection Agency (EPA) regulations regarding the discharge of water and air pollutants and for assuring that disposal of all chemical residues meet current EPA regulations.

D. The Contractor shall be in compliance with the Department of Transportation regulations in the shipment of toxic substances.

Confidentiality of Information

A. In accordance with HHSAR Clause 352.224-70 “Confidentiality of Information” certain data provided to the Contractor under this contract shall be treated confidentially. The data to be treated confidentially is associated with certain “discreet” compounds which are not available to the public because, for example, the owner may be in the process of obtaining a patent or the compound may be protected by a patent. Confidential information includes, but is not limited to, the identity of suppliers, compound structures, amounts being prepared, etc. When compounds are assigned to the Contractor for

synthesis or purity evaluations, these discreet compounds will be identified by the letter "D" as a prefix to the NSC number of the compound.

B. The Contractor will have access to proprietary information on compounds assigned by the NCI for re-synthesis, and the Contractor shall be required to treat all information obtained under this contract as strictly confidential. The Government will provide the Contractor with guidelines governing this requirement. All information supplied by the NCI or generated by the Contractor under this contract will be treated as strictly confidential and solely as Government property.

Intellectual Property Option To Collaborator

The following clause will be incorporated into the awarded contract:

NCI may collaborate with an outside investigator who has proprietary rights to compounds which may be assigned under this contract. This collaborator will be identified by the Project Officer (PO) at the time of assignment and in this case, the following option regarding Intellectual Property Rights will be applicable.

Contractor agrees to promptly notify the NCI and "Collaborator" in writing of any inventions, discoveries or innovations made by the contractor's principal investigator or any other employees or agents of the contractor, whether patentable or not, which are conceived and/or first actually reduced to practice in the performance of this study using Collaborator's Study Agent (hereinafter "Contractor Inventions").

Contractor agrees to grant to Collaborator: (1) a paid up nonexclusive, nontransferable, royalty-free, world-wide license to all Contractor Inventions for research purposes only; and (2) a time-limited first option to negotiate an exclusive world-wide royalty-bearing license for all commercial purposes, including the right to grant sub-licenses, to all Contractor Inventions on terms to be negotiated in good faith by Collaborator and Contractor. Collaborator shall notify Contractor, in writing, of its interest in obtaining an exclusive license to any Contractor Invention within six (6) months of Collaborator's receipt of notice of such Contractor Invention(s). In the event that Collaborator fails to so notify Contractor or elects not to obtain an exclusive license, then Collaborator's option shall expire with respect to that Contractor Inventions, and Contractor will be free to disposes of its interest in such Contractor Invention in accordance with its own policies. If Contractor and Collaborator fail to reach agreement within ninety (90) days, (or such additional period as Collaborator and Contractor may agree) on the terms for an exclusive license for a particular Contractor Invention, then for a period of six (6) months thereafter, Contractor shall not offer to license the Contractor Invention to any third party on materially better terms than those last offered to Collaborator without first offering such terms to Collaborator, in which case Collaborator shall have a period of thirty (30) days in which to accept or reject the offer.

Contractor agrees that notwithstanding anything herein to the contrary, any inventions, discoveries or innovations whether patentable or not, which are not Subject Inventions as defined in 35 U.S.C. 201(e),* arising out of any unauthorized use of the Collaborator's Study Agent shall be the property of the Collaborator (hereinafter "Collaborator Inventions"). Contractor will promptly notify the Collaborator in writing of any such Collaborator Inventions and, at Collaborator's request and expense, Contractor will cause to be assigned to Collaborator all right, title and interest in and to any such Collaborator Inventions and provide Collaborator with reasonable assistance to obtain patents (including causing the execution of any invention assignment or other documents). Contractor may

also be conducting other more basic research using Study Agent under the authority of a separate Material Transfer Agreement (MTA), or other such agreement with the Collaborator. Inventions arising thereunder shall be subject to the terms of the MTA, and not to this clause.

*35 U.S.C. (e): The term “subject invention” means any invention of the contractor conceived or first actually reduced to practice in the performance of work under a funding agreement: Provided, that in the case of a variety of plant, the date of determination (as defined in section 41(d) (FOOTNOTE 1) of the Plant Variety Protection Act (7U.S.C.2401) (d) must also occur during the period of contract performance.

Protection of Proprietary Data

Data generated using an investigational agent proprietary to a Collaborator will be kept confidential and shared only with the NCI and the Collaborator. The Contractor retains the right to publish research results subject to the terms of this contract.