One Cell Systems, Inc.

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ONE CELL SYSTEMS AWARDED PHASE II SBIR TO DEVELOP ASSAY FORMAT FOR ISOLATING HYBRIDOMAS PRODUCING ANTIGEN SPECIFIC ANTIBODIES

Cambridge, MA (July 14, 2003) One Cell Systems, Inc. announced that it had recently been awarded a Phase II Small Business Innovation Research (SBIR) grant from the National Science Foundation to develop a novel approach for identifying hybridomas producing antigen specific antibodies. The total amount of the award is $510,700.

This assay format relies on single cell gel microdrop (GMD) encapsulation technology and fluorescence activated cell sorting (FACS) to isolate cells producing proteins of interest. Since secreted molecules rapidly dissociate from the originating cell, isolation of individual cells based on specificity of secreted proteins is not currently possible.

A key component of this assay involves anchoring the antigen specific antibody against the protein of interest to the agarose GMD matrix, where it functions as a capture molecule. Secreted antibodies that interact with the anchored protein antigen are detected with a fluorescently labeled reporter antibody, permitting isolation by FACS. Conceptually, each GMD functions as a miniaturized microtiter well.

“The ability to identify single cells producing antigen specific antibodies is not possible using other assays and is a compelling feature of the GMD Secretion Assay”, said Yevgenya Akselband, Ph.D, Principal Investigator for this program. “Our antigen specific assay can dramatically reduce time to market as well as labor costs associated with traditional antibody production”, Dr. Akselband continued.

Currently, hybridoma selection from a mixed pool of cells involves limiting dilution cloning and assay of culture supernatants for antigen specificity of secreted antibodies. This process is variable, labor intensive and time-consuming since it requires numerous growth cycles and isolation steps until a cell line is optimized for antibody production. Using the GMD Secretion Assay, 10^6 cells can be screened per hour.

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Company Background

One Cell Systems, Inc., is a privately-held biotechnology company commercializing novel assays for drug discovery and development and clinical research. Products include secreted protein and growth assays that rely on microencapsulation and flow cytometry and *in situ* hybridization assays for cancer and infectious disease.

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