Cytokinetics and GlaxoSmithKline Amend Collaboration and License Agreement

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South San Francisco, CA, November 27, 2006 - Cytokinetics, Incorporated (Nasdaq: CYTK) announced an amendment of the company's collaboration and license agreement with GlaxoSmithKline (GSK), under which Cytokinetics will assume responsibility for the costs and activities of continued development of the kinesin spindle protein (KSP) inhibitors ispinesib (SB-715992) and SB-743921, subject to GSK's option to resume responsibility for some or all development and commercialization activities associated with each of these novel drug candidates.

Under the revised structure, Cytokinetics plans to conduct a focused development program for ispinesib specifically designed to supplement the broad series of Phase I and Phase II clinical trials sponsored by GSK that have demonstrated clinical activity in the treatment of patients with metastatic breast and lung cancers and that have shown an acceptable tolerability profile for ispinesib in combination with standard chemotherapeutics. Cytokinetics is considering plans to conduct a focused clinical trials program in breast cancer patients in 2007. This program would be designed to further define the clinical activity profile of ispinesib in advanced breast cancer in preparation for potentially initiating a Phase III clinical trial of ispinesib for the second-line treatment of advanced breast cancer. Concurrent with this supplemental program for ispinesib, the National Cancer Institute (NCI) is continuing ongoing Phase II and Phase I clinical trials with ispinesib and Cytokinetics is continuing an ongoing Phase I/II clinical trial of SB-743921 in non-Hodgkin's lymphoma (NHL) that was initiated earlier this year.

“We are pleased to have the opportunity to sponsor additional activities focused to advancing ispinesib as a potential next-generation approach for the treatment of breast cancer alongside our ongoing clinical trial now underway with SB-743921,” stated James H. Sabry, M.D., Ph.D., Cytokinetics' Chief Executive Officer. “We believe that the clinical trials data generated by GSK, alongside data arising from NCI sponsored trials, should serve as a foundation for a focused and cost effective development program going forward.”

“We have been engaged with GSK in a collaboration for over five years. Our research and development collaboration activities have yielded two novel drug candidates and one potential drug candidate for the treatment of cancer,” stated Andrew A. Wolff, M.D., F.A.C.C., Cytokinetics' Senior Vice President of Clinical Research and Development and Chief Medical Officer. “We look forward to reviewing additional clinical trials data for ispinesib and SB-743921 and are pleased to take a more prominent role in ongoing development activities.”

Update Regarding Phase II Trial Evaluating Ispinesib in Patients with Breast Cancer

GSK conducted a two-stage Phase II clinical trial designed to evaluate the safety and efficacy of ispinesib in the second- or third-line treatment of patients with locally advanced or metastatic breast cancer whose disease had recurred or progressed despite treatment with anthracyclines and taxanes. In this clinical trial, patients received ispinesib as monotherapy at 18 mg/m2 as a 1 hour infusion once every 21 days. As previously announced, in Stage 1 of this clinical trial, the best overall responses observed were 3 partial responses (as measured by the Response Evaluation Criteria in Solid Tumors, or RECIST) among 33 evaluable patients. These 3 patients had maximum decreases in tumor size ranging from 46% to 68% with the durations of response ranging from 7.1 weeks to 13.4 weeks. The most common adverse event was Grade 4 neutropenia. While fully analyzed data from Stage 2 of this clinical trial have not yet been provided to Cytokinetics, GSK has recently informed the company that the trial has been closed to enrollment at 50 patients and that an additional independently confirmed partial response was observed in the trial.

Moreover, as previously presented at the 18th Annual EORTC-NCI-AACR Symposium on Molecular Targets and Cancer Therapeutics in Prague, Czech Republic, a scientific poster entitled, "Phase I Study of Ispinesib (SB-715992), a Kinesin Spindle Protein Inhibitor, in Combination with Capecitabine in Patients with Advanced Solid Tumors," contained data from an ongoing clinical trial demonstrating that the combination of ispinesib and capecitabine may have an acceptable tolerability profile on the clinical trial's treatment schedule. The optimally tolerated regimen in this clinical trial has yet to be defined. However, the maximum tolerated dose of ispinesib of 18 mg/m2, administered as an intravenous infusion every 21 days, was tolerated with therapeutic doses of capecitabine, specifically daily oral doses of 2000 mg/m2 and 2500 mg/m2 for 14 days of a 21 day cycle, and plasma concentrations of ispinesib were not affected by the presence of capecitabine. Dose limiting toxicities observed included Grade 2 rash that did not allow 75% of the capecitabine doses to be delivered and prolonged Grade 4 neutropenia. In this clinical trial, a total of 12 patients (including 4 with breast cancer, 3 with colorectal cancer, 3 with bladder cancer, 1 with thyroid cancer and 1 with tongue cancer) out of 24 total patients had a best response of stable disease as defined by the RECIST criteria (median 2.25 months, duration 2-12 months). A patient with breast cancer had the longest duration of stable disease at 12 months.

Terms of November 2006 Amendment to Collaboration Agreement

Under the terms of the November 2006 amendment to the collaboration agreement, Cytokinetics, at its expense, will assume responsibility for the continued research, development and commercialization of inhibitors of KSP, including ispinesib and SB-743921, and other mitotic kinesins, other than centromere-associated protein E (CENP-E) which is the focus of translational research activities being conducted by GSK and Cytokinetics and development activities being conducted by GSK. The ongoing activities for CENP-E are coordinated under an agreed joint research program during an extended research term under the June 2006 amendment to the collaboration agreement. Under the November 2006 amendment, Cytokinetics' development of ispinesib and SB-743921 is subject to GSK's option to resume responsibility for the development and commercialization of either or both drug candidates during a defined period and in accordance with agreed terms. If GSK exercises its option for a drug candidate, it will pay Cytokinetics an option fee equal to the costs Cytokinetics independently incurred for that drug candidate, plus a premium intended to compensate Cytokinetics for the cost of capital associated with such costs, subject to an agreed limit for such costs and premium. Upon GSK exercising its option for a drug candidate, Cytokinetics may receive additional pre-commercialization milestone payments with respect to such drug candidate and increased royalties on net sales of any resulting product, in each case, beyond those contemplated under the original agreement. If GSK does not exercise its option for a drug candidate, Cytokinetics will be obligated to pay royalties to GSK on the sales of any resulting products. The November 2006 amendment supersedes a previous amendment to the collaboration agreement dated September 2005, which specifically related to SB-743921.

Cytokinetics is considering a development plan for the further evaluation of ispinesib for the treatment of breast cancer and may further explore the combination treatment approach of ispinesib with capecitabine. This strategy is informed by evidence of clinical activity observed in a monotherapy clinical trial of ispinesib in the second-line or third-line treatment of advanced breast cancer patients and in a combination therapy clinical trial of ispinesib and capecitabine. In addition, Cytokinetics is currently conducting a Phase I/II clinical trial of SB-743921 in patients with NHL.

“Since we initiated our collaboration with GSK in 2001, Cytokinetics has evolved its research and development capabilities, which now enable us to

conduct these additional activities," stated Robert I. Blum, Cytokinetics' President. "In keeping with the maturation of our business, we are now pleased to take on additional responsibilities in a manner that, if successful, may provide additional upside to Cytokinetics."

Revised Financial Guidance for Remainder of 2006

Cytokinetics' revised revenue guidance for 2006 is estimated to be in the range of $3-4 million. However, the company believes that this reduction in revenue will be offset by a reduction in operating expenses. Research and development expense guidance for 2006 is estimated to be in the range of $52-56 million. General and administrative expense guidance for 2006 is estimated to be in the range of $16-19 million. In January 2007, when the company reports its fourth quarter 2006 results and provides guidance for its 2007 revenue and expenses, the company also expects to provide financial guidance taking into consideration additional clinical trial responsibilities for ispinesib.

Conference Call / Webcast

Cytokinetics will host a conference call on Monday, November 27, 2006 at 4:30 p.m. Eastern Time. The conference call will be simultaneously webcast and will be accessible in the Investor Relations section of Cytokinetics' website at www.cytokinetics.com. The live audio of the conference call will also be accessible via telephone to investors, members of the news media and the general public by dialing either (866) 999-CYTK (2985) (United States and Canada) or (706) 679-3078 (International) and typing in the passcode 2878805. An archived replay of the webcast will be available via Cytokinetics' website until December 26, 2006. The replay will also be available via telephone by dialing (800) 642-1687 (United States and Canada) or (706) 645-9291 (International) and typing in the passcode 2878805 from November 27, 2006 at 6:30 p.m. Eastern Time until December 26, 2006.

Background on Cytokinetics and GlaxoSmithKline Strategic Alliance

In June 2001, Cytokinetics and GSK announced that the companies had entered into a collaboration agreement for a broad strategic alliance to discover, develop and commercialize novel small molecule therapeutics targeting mitotic kinesins for applications in the treatment of cancer and other diseases. The strategic alliance has generated two drug candidates in clinical development, ispinesib and SB-743921, and one potential drug candidate in preclinical development, GSK-923295. In September 2005, Cytokinetics announced an amendment to the collaboration agreement to provide Cytokinetics an expanded role in the clinical research and development of SB-743921; the September 2005 amendment has been superseded by the November 2006 amendment. In June 2006, Cytokinetics announced the extension of the research term of this strategic alliance for an additional year, beyond the original minimum of five years, to continue activities focused towards translational research directed to CENP-E.

Background on Mitotic Kinesin Inhibitors

Since their introduction over 40 years ago, anti-mitotic drugs (taxanes and vinca alkaloids) have advanced the treatment of cancer and are commonly used for the treatment of several tumor types. However, these drugs have demonstrated limited treatment benefit against certain cancers. In addition, these drugs target tubulin, a cytoskeletal protein involved not only in mitosis and cell proliferation, but also in other important cellular functions. Inhibition of these other cellular functions produces dose-limiting toxicities such as peripheral neuropathy, an impairment of peripheral nervous system function. Neuropathies are thought to result when these drugs interfere with the dynamics of microtubule filaments that are responsible for the long-distance transport of important cellular components within nerve cells.

Mitotic kinesins are essential to mitosis, and, unlike tubulin, appear to have no role in unrelated cellular functions. Cytokinetics believes that drugs that inhibit KSP and CENP-E and other mitotic kinesins may represent the next generation of anti-mitotic cancer drugs by arresting mitosis and cell proliferation without impacting unrelated, normal cellular functions, thereby avoiding many of the toxicities commonly experienced by patients treated with existing anti-mitotic drugs.

Clinical Trials Status for Ispinesib

Ispinesib has been the subject of a broad clinical trials program under the sponsorship of GSK and is also being developed in collaboration with the NCI. GSK has sponsored three Phase II clinical trials, one evaluating ispinesib as second- or third-line treatment for patients with locally advanced or metastatic breast cancer, one evaluating ispinesib as second-line treatment for patients with non-small cell lung cancer and one evaluating ispinesib as second-line treatment for patients with advanced ovarian cancer. In addition, GSK has sponsored three dose-escalating Phase Ib clinical trials. Each of these clinical trials was designed to evaluate the safety, tolerability, and pharmacokinetics of ispinesib in combination with a leading anti-cancer therapeutic, one in combination with carboplatin, the second in combination with capecitabine, and the third in combination with docetaxel. The NCI has sponsored five additional Phase II clinical trials evaluating the potential efficacy of ispinesib in the second-line treatment of patients with colorectal cancer, in the first-line treatment of patients with hepatocellular cancer, in the first-line treatment of patients with melanoma, in the first-line or second-line treatment of patients with head and neck cancers, and in the second-line treatment of patients with hormone-refractory prostate cancer. The NCI is continuing patient enrollment in two additional Phase I clinical trials designed to evaluate the safety, tolerability and pharmacokinetics of ispinesib on an alternative dosing schedule. One clinical trial is enrolling patients with advanced solid tumors that have failed to respond to all standard therapies and the other clinical trial is enrolling patients with acute leukemia, chronic myelogenous leukemia or advanced myelodysplastic syndromes. In addition, the NCI plans to initiate a Phase II clinical trial to evaluate the potential efficacy of ispinesib as second-line treatment of patients with renal cell cancer and a Phase I clinical trial evaluating ispinesib as monotherapy in pediatric patients with relapsed or refractory solid tumors.

Clinical Trials Status for SB-743921

SB-743921 is being evaluated by Cytokinetics in a Phase I/II clinical trial in patients with NHL. This trial is an open-label, non-randomized clinical trial designed to investigate the safety, tolerability, pharmacokinetic and pharmacodynamic profile of SB-743921, administered as a one-hour infusion on days 1 and 15 of a 28-day schedule, first without and then with the administration of granulocyte colony stimulating factor in patients with NHL. GSK conducted an open-label, non-randomized, dose-finding Phase I clinical trial of SB-743921 in patients with advanced solid tumors.

About Cytokinetics

Cytokinetics is a biopharmaceutical company focused on the discovery, development and commercialization of novel small molecule drugs that specifically target the cytoskeleton. The cytoskeleton is a complex biological infrastructure that plays a fundamental role within every human cell. Cytokinetics' focus on the cytoskeleton enables it to develop novel and potentially safer and more effective classes of drugs directed at treatments for cancer, cardiovascular disease and other diseases. Under a strategic alliance established in 2001, Cytokinetics and GSK are conducting research and development activities focused towards the potential treatment of cancer and other indications. Cytokinetics and GSK are continuing collaborative research focused to translational research directed to the mitotic kinesin, CENP-E. GSK-923295, a CENP-E inhibitor, is being developed under the strategic alliance by GSK; GSK expects to begin clinical trials with GSK-923295 in 2007. Cytokinetics is responsible for the development of ispinesib and SB-743921, each a novel inhibitor of the mitotic kinesin, KSP. Ispinesib has been the subject of a broad clinical trials program comprising nine Phase II clinical trials as well as six Phase I or Ib clinical trials. Cytokinetics plans to conduct additional clinical trials with ispinesib and is conducting a Phase I/II trial of SB-743921 in non-Hodgkin's lymphoma. Cytokinetics' unpartnered cardiovascular disease program is the second program to

leverage the company's expertise in cytoskeletal pharmacology. Cytokinetics recently completed a Phase I clinical trial with CK-1827452, a novel small molecule cardiac myosin activator, and is advancing CK-1827452 in both intravenous and oral formulations for the treatment of heart failure. Additional information about Cytokinetics can be obtained at http://www.cytokinetics.com.

This press release contains forward-looking statements for purposes of the Private Securities Litigation Reform Act of 1995 (the "Act"). Cytokinetics disclaims any intent or obligation to update these forward-looking statements, and claims the protection of the Safe Harbor for forward-looking statements contained in the Act. Examples of such statements include, but are not limited to, statements relating to the expected initiation, timing and scope and targeted indications of clinical trials within Cytokinetics' and its partners' clinical development and research programs, Cytokinetics' financial guidance for expected revenues and R&D and G&A expenses for 2006, the potential benefits of Cytokinetics' drug candidates and potential drug candidates, the enabling capabilities of Cytokinetics' biological focus and the potential benefits of data obtained from completed clinical trials. Such statements are based on management's current expectations, but actual results may differ materially due to various factors. Such statements involve risks and uncertainties, including, but not limited to, those risks and uncertainties relating to decisions by GSK or the NCI to postpone or discontinue research and/or development efforts for one or more compounds or for GSK to discontinue funding of such efforts for CENP-E under Cytokinetics' collaboration with GSK, difficulties or delays in patient enrollment for clinical trials, unexpected adverse side effects or inadequate therapeutic efficacy of Cytokinetics' drug candidates, and other potential difficulties or delays in development, testing, regulatory approval, production and marketing of Cytokinetics' drug candidates that could slow or prevent clinical development, product approval or market acceptance (including the risks relating to uncertainty of patent or trade secret protection for Cytokinetics' intellectual property, Cytokinetics' ability to obtain additional financing if necessary and unanticipated research and development and other costs),and changing standards of care and the introduction by others of products or alternative therapies for the treatment of indications currently or potentially targeted by Cytokinetics' drug candidates and potential drug candidates. For further information regarding these and other risks related to Cytokinetics' business, investors should consult Cytokinetics' filings with the Securities and Exchange Commission.