ArQule Provides Clinical Trial Update

WOBURN, Mass.--(BUSINESS WIRE)--Jan. 16, 2007--ArQule, Inc. (NASDAQ: ARQL) today provided an update on its clinical trials with three compounds: ARQ 197, a proprietary, orally administered small molecule inhibitor of the c-Met receptor tyrosine kinase; ARQ 501, a first-generation Activated Checkpoint Therapy(SM) (ACT) candidate; and ARQ 171, a second generation ACT compound.

"Progress is continuing toward proof-of-principle with our clinical-stage products," said Dr. Stephen A. Hill, president and chief executive officer of ArQule. "Patients have been recruited in a timely fashion, and we expect to begin presenting data from these trials by the middle of this year."

ARQ 197

The Company has completed dose escalation in its Phase 1 trial with ARQ 197. Utilizing two weeks of therapy followed by one week off therapy, maximum systemic patient exposure to ARQ 197 was achieved in the absence of dose-limiting toxicity. The optimal dose of ARQ 197 when given orally, two weeks out of three, has been identified as 120 mg twice daily. Based on the excellent safety profile and favorable pharmacokinetics, the Company will explore a continuous dosing schedule prior to initiation of Phase 2 testing with ARQ 197 in the second quarter of 2007.

In addition to development of a continuous dosing regimen, ArQule is also about to initiate a new study to investigate biomarkers of activity in both tumor tissue and peripheral blood. This trial will be conducted at the Royal Marsden Hospital in the United Kingdom. The principal investigator is Dr. Johann de Bono, Institute of Cancer Research, Royal Marsden Hospital.

Findings from the Marsden study are designed to help correlate anti-tumor activity with biomarker activity and to establish dosing parameters for Phase 2 clinical testing. Pending these findings, the Company expects to employ a continuous dosing regimen for Phase 2, as compared to dosing two of every three weeks in Phase 1.

The Company will also evaluate tumor responses from the Phase 1 trial in advance of tumor selection for Phase 2. As presented in an interim data analysis at the recent 18th EORTC-NCI-AACR International Conference on Molecular Targets and Cancer Therapeutics, tumor regression and prolonged disease stabilization were observed in the Phase 1 trial among patients who had failed prior treatment regimens for a broad range of metastatic solid tumor types. These included neuroendocrine, non-small cell lung, angiomyolipoma, pancreatic, prostate, renal cell and testicular cancers. All of these patients had experienced previous treatments that included surgery, radiation and pharmacotherapy but had failed these treatments or experienced subsequent disease progression. Available patient histories indicate that treatments prior to ARQ 197 date back to 2003 for neuroendocrine cancer, to 1994 for non-small cell lung cancer, to 2004 for pancreatic cancer, and to 1990 for renal cell cancer.

ARQ 501 and ARQ 171

Patient enrollment has been completed in three Phase 2 trials with ARQ 501. These include monotherapy trials in leiomyosarcoma (enrollment target of 30 patients) and head and neck cancer (enrollment target of 53 patients), as well as a combination trial with gemcitabine in pancreatic cancer (enrollment target of 66 patients). The Company expects to report data from these trials in mid-2007.

Patient enrollment in a Phase 1 trial with ARQ 171 began in December 2006. Dose escalation is proceeding following successful completion of the first dose level.

Hoffmann-La Roche has an option to license worldwide rights for the development and commercialization of products resulting from ArQule's E2F-1 ACT program in cancer therapy based on a clinical data package from one of the Phase 2 monotherapy trials and the combination therapy trial with ARQ 501, as well as from the Phase 1 trial with ARQ 171.

About ARQ 197 and c-Met

ARQ 197 is the lead product from the Company's Cancer Survival Program (CSP), also known as ARQ-650RP. ARQ 197 is designed to block the activity of c-Met, a receptor tyrosine kinase that plays multiple key roles in human cancer, including cancer cell growth, survival, angiogenesis, invasion and metastasis. The inappropriate expression of c-Met in most cancers and its role in controlling multiple signal transduction pathways involved in tumor growth and metastasis render it a highly

compelling therapeutic target for cancer.

Pre-clinical findings have demonstrated that ARQ 197 inhibits c-Met in a wide range of human tumor cell lines and possesses anti-tumor activity against several types of xenografted human tumors in mice. The Company retains all rights to compounds derived from the ARQ-650RP program, including ARQ 197.

About Checkpoint Activation

In a normal cell, checkpoint mechanisms serve to monitor genetic (DNA) damage. If damage is detected, the cell attempts to repair the damage. If such repair is not possible, checkpoint functions cause the damaged cell to undergo cell death, or apoptosis. Cancer cells have multiple abnormalities, including DNA damage, but they are able to survive and proliferate because key checkpoints and apoptotic pathways are disabled as the cancer develops. As a result, cancer cells undergo cell division in an uncontrolled way and pass their genetic damage on to their daughter cells.

Conventional chemotherapy seeks to kill cancer cells by creating further damage to DNA sufficient to prevent cell replication. A well-known side effect of this approach is that normal cells are indiscriminately damaged, creating toxicity to patients and limiting the cancer cell killing activity of conventional chemotherapy. In contrast, ArQule's small molecule ACT product candidates, including ARQ 501 and ARQ 171, activate under-functional checkpoints and re-enable the cell to detect and respond appropriately to DNA damage. As a result, cancer cells undergo apoptosis, while normal cells, which have little DNA damage compared to cancer cells, are spared.

ArQule's ARQ-550RP program is focused on the discovery and clinical development of small molecule drug candidates that target the E2F-1 checkpoint pathway. By activating E2F-1-mediated checkpoint pathways, these compounds are intended to kill cancer cells selectively by activating the cell's natural defense mechanism against DNA damage.

About ArQule

ArQule, Inc. is a biotechnology company engaged in the research and development of next-generation, small-molecule cancer therapeutics. The Company's targeted, broad-spectrum products and research programs are designed to affect key biological processes that are central to cancer. ArQule's lead clinical-stage products have been generated from two scientific platforms: Cancer Survival Protein modulation and Activated Checkpoint Therapy(SM) (ACT). The Cancer Survival Protein modulation platform has generated a clinical-stage product designed to inhibit a molecule known as c-Met, which plays multiple roles in cancer cell growth, survival, invasion, angiogenesis and metastasis. The ACT platform is designed to kill cancer cells selectively while sparing normal cells through direct activation of DNA damage response/checkpoint pathways. The Company's lead ACT program, based on the E2F-1 pathway, is partnered with Roche. For more information, please visit www.arqule.com.

This press release contains forward-looking statements regarding the Company's Phase 1 trial with ARQ 171, Phase 1 and 2 trials with ARQ 197 and Phase 2 trials with ARQ 501. These statements are based on the Company's current beliefs and expectations, and are subject to risks and uncertainties that could cause actual results to differ materially. Positive information about early stage clinical trial results does not ensure that later stage or larger scale clinical trials will be successful. For example, ARQ 171, ARQ 501 and ARQ 197 may not demonstrate promising therapeutic effect; in addition, they may not demonstrate an appropriate safety profile in current or later stage or larger scale clinical trials as a result of known or as yet unanticipated side effects. The results achieved in later stage trials may not be sufficient to meet applicable regulatory standards. Problems or delays may arise during clinical trials or in the course of developing, testing or manufacturing these compounds that could lead the Company or its partner to discontinue development. Even if later stage clinical trials are successful, the risk exists that unexpected concerns may arise from analysis of data or from additional data or that obstacles may arise or issues be identified in connection with review of clinical data with regulatory authorities or that regulatory authorities may disagree with the Company's view of the data or require additional data or information or additional studies. In addition, the planned timing of initiation and completion of clinical trials for ARQ 171, ARQ 501 and ARQ 197 are subject to the ability of the Company to enroll patients, enter into agreements with clinical trial sites and investigators, and other technical hurdles and issues that may not be resolved. Drug development involves a high degree of risk. Only a small number of research and development programs result in the commercialization of a product. For more detailed information on the risks and uncertainties associated with the Company's drug development and other activities see the Company's periodic reports filed with the Securities and Exchange Commission. The Company does not undertake any obligation to publicly update any forward-looking statements.

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