Phase 1 data published elucidating pharmacodynamics & mechanism of action of seliciclib in nasopharyngeal cancer

BERKELEY HEIGHTS, NJ – March 5, 2009 – Cyclacel Pharmaceuticals, Inc. (NASDAQ: CYCC, NASDAQ: CYCCP) announced publication of an investigator-sponsored Phase 1 study reporting pharmacodynamic effects of seliciclib, an orally-administered cell cycle modulator, in treatment-naive patients with undifferentiated nasopharyngeal cancer. The data were published in the February 2009 issue of the journal Clinical Cancer Research. The study was led by Boon-Cher Goh, MD and colleagues at National University Hospital, Singapore. Seliciclib, Cyclacel's orally available cyclin dependent kinase (CDK) inhibitor, is currently being evaluated in two randomized Phase 2 trials in patients with previously treated nasopharyngeal and non-small cell lung cancer.

The publication reports data from a Phase 1 study with a primary objective of evaluating biomarker changes after administration of oral seliciclib as a single agent in patients with undifferentiated nasopharyngeal cancer who did not receive prior chemotherapy. Thirteen patients were treated at a dose level of 400 mg twice a day which was well tolerated with no significant toxicities. Three patients treated at 800 mg twice a day did not tolerate this dose level. Clinical evidence of tumor shrinkage (defined as a reduction of more than 25% in palpable cervical lymph nodes) was observed in seven of fourteen evaluable patients. Clear reductions in nasopharyngeal tumor size were seen by endoscopy in one patient and radiographic evidence of tumor necrosis in the cervical lymph nodes in a further two patients.

The study used a window design to collect plasma and biopsy samples before and after seliciclib treatment for approximately eight days during a single two-week cycle. Evaluable paired biopsies were available from six patients. Analysis of plasma and biopsy samples was conducted in several biomarker assays. Seliciclib treatment resulted in down-regulation of transcription of genes relevant to EBV-mediated tumorigenesis and biological markers of anticancer activity. In particular the investigators observed reduction in the Mcl-1 and cyclin D1 anti-apoptotic protein levels in 3 out of 6 patients and decreased phosphorylation of the retinoblastoma protein in 2 out of 6 patients. Increased levels of apoptosis were observed in biopsies from 3 out of 6 patients following seliciclib treatment. Analysis of RNA isolated from biopsy samples indicated changes in gene expression consistent with modulation of transcription by seliciclib through inhibition of CDK7 and CDK9. The most significantly down-regulated genes were members of pathways known to be activated by latent membrane protein 1 (LMP1), an EBV-encoded gene with known oncogenic properties that is expressed in a majority of nasopharyngeal carcinoma cells.

About seliciclib

Seliciclib is an orally available molecule that selectively inhibits multiple cyclin dependent kinase (CDK) enzyme targets including CDK2/E, CDK2/A, CDK7 and CDK9. CDK enzymes play a central role regulating the process of cell proliferation and cell cycle control and were the subject of the Nobel Prize for Medicine and Physiology in 2001. Seliciclib is the leading, orally available CDK inhibitor and has been administered to date to approximately 400 subjects. It is currently being evaluated in two separate randomized Phase 2 trials in patients with previously treated nasopharyngeal cancer and advanced non-small cell lung cancer. Seliciclib has been widely reported by independent investigators to have promise for the treatment of diseases outside oncology in which non-malignant cells proliferate abnormally including inflammatory kidney and pulmonary diseases. In addition to seliciclib, Cyclacel scientists have discovered a large number of back-up CDK inhibitor molecules with enhanced properties.

About nasopharyngeal cancer

Nasopharyngeal cancer is a cancer of the nose and pharynx. Although nasopharyngeal cancer is often classified as a tumor of the head and neck, its etiology is different than head and neck cancer and is linked to Epstein-Barr Virus (EBV) infection, environmental factors and genetic predisposition. There are no approved medicines to treat nasopharyngeal cancer and upon relapse the disease is ultimately fatal. Nasopharyngeal carcinoma is characterized by dysregulation of the cell cycle particularly through overexpression of cyclin D1 and silencing of cell cycle inhibitor proteins promoting gene transcription. Inhibition of these pathways by seliciclib potentially restores cell cycle regulation and results in control of tumor growth. It is estimated that there are approximately 85,000 new cases of nasopharyngeal cancer globally of which 2,300 in the United States, 2,000 in the European Union and 42,000 in Pacific Rim countries and in particular China, Hong Kong and Singapore.

About Cyclacel Pharmaceuticals, Inc.

Cyclacel is a biopharmaceutical company dedicated to the discovery, development and commercialization of novel, mechanism-targeted drugs to treat human cancers and other serious disorders. Three orally-available Cyclacel drugs are in clinical

development. Sapacitabine (CYC682), a cell cycle modulating nucleoside analog, is in Phase 2 studies for the treatment of acute myeloid leukemia in the elderly, myelodysplastic syndromes, cutaneous T-cell lymphoma and lung cancer. Seliciclib (CYC202 or R-roscovitine), a CDK (cyclin dependent kinase) inhibitor, is in Phase 2 for the treatment of lung cancer and nasopharyngeal cancer. CYC116, an Aurora kinase and VEGFR2 inhibitor, is in Phase 1 in patients with solid tumors. Cyclacel's ALIGN Pharmaceuticals subsidiary markets directly in the U.S. Xclair® Cream for radiation dermatitis, Numoisyn® Liquid and Numoisyn® Lozenges for xerostomia. Cyclacel's strategy is to build a diversified biopharmaceutical business focused in hematology, oncology and other therapeutic areas based on a portfolio of commercial products and a development pipeline of novel drug candidates.

Please visit www.cyclacel.com for additional information. Note: The Cyclacel logo and Cyclacel® are trade–marks of Cyclacel Pharmaceuticals, Inc. Numoisyn® and Xclair® are trademarks of Sinclair Pharma plc.

The study citation is: doi:10.1158/1078-0432.CCR-08-1748 or Clinical Cancer Research 2009 15(4);1435 February 15, 2009.

Risk Factors

This news release contains certain forward-looking statements that involve risks and uncertainties that could cause actual results to be materially different from historical results or from any future results expressed or implied by such forward-looking statements. Such forward-looking statements include statements regarding, among other things, the efficacy, safety, and intended utilization of Cyclacel's product candidates, the conduct and results of future clinical trials, plans regarding regulatory filings, future research and clinical trials and plans regarding partnering activities. Factors that may cause actual results to differ materially include the risk that product candidates that appeared promising in early research and clinical trials do not demonstrate safety and/or efficacy in larger-scale or later clinical trials, the risk that Cyclacel will not obtain approval to market its products, the risks associated with reliance on outside financing to meet capital requirements, and the risks associated with reliance on collaborative partners for further clinical trials, development and commercialization of product candidates. You are urged to consider statements that include the words "may," "will," "would," "could," "should," "believes," "estimates," "projects," "potential," "expects," "plans," "anticipates," "intends," "continues," "forecast," "designed," "goal," or the negative of those words or other comparable words to be uncertain and forward-looking. These factors and others are more fully discussed under "Risk Factors" in the Annual Report on Form 10-K for the year ended December 31, 2007, as supplemented by the interim quarterly reports, filed with the SEC.

SOURCE: Cyclacel Pharmaceuticals, Inc.

Contacts for Cyclacel Pharmaceuticals, Inc.:
Investors:
Corey Sohmer, (908) 517-7330
csohmer@cyclacel.com

Media/Press:
Peter Steinerman, (516) 641 8959
PRSteinerman@aol.com