FOR IMMEDIATE RELEASE

Pivotal Data on ChemGenex's Omapro™ Highlighted at ASH Press Conference

- Highest Response Rates Yet for T315I + CML Clinical Trial -

- Findings Suggest Omapro Represents a New Potential Therapy for CML Patients with the T315I Resistance Mutation -

MELBOURNE, Australia, and MENLO PARK, California U.S.A. (7 December 2009) – ChemGenex Pharmaceuticals Limited (ASX:CXS) announced today updated clinical data showing that Omapro™ (omacetaxine mepesuccinate) produced durable hematologic and cytogenetic responses in chronic myeloid leukemia (CML) patients who have failed treatment with imatinib and who have developed the Bcr-Abl T315I mutation. New data was presented at a pre-conference press showcase at the 51st Annual American Society of Hematology Annual Meeting in New Orleans, Louisiana.

At the press conference titled "Advances in Diagnosing and Treating Leukemia and Myeloproliferative Disorders" Dr. Jorge Cortes, MD, Professor of Medicine and Deputy Chair in the Department of Leukemia at The University of Texas, MD Anderson Cancer Center, a lead investigator in the study, presented data on behalf of a team including investigators from ChemGenex and leading U.S. and European clinical research centers. Completing his presentation, Dr Cortes concluded that Omapro represents a new potential therapy for patients with T315I+ CML.

Data were presented from 81 CML patients: 49 in chronic phase, 17 in accelerated phase and 15 in blast phase. Highlights of the data were:

- Complete hematologic responses (CHR) in 86% of chronic phase patients, median response duration 9 months
- Total cytogenetic response rate of 41% in chronic phase patients, with major cytogenetic response (MCyR) rate of 27%
- Overall hematologic responses in 35% of accelerated phase patients (median duration 7 months)
- Overall hematologic responses in 47% of blast phase patients (median duration 2 months)
- Investigators reported that omacetaxine is safe for self-administration, is well tolerated, and that reversible and manageable myelosuppression is the most common side effect

"We are delighted with the positive data presented today that continues to show that Omapro can provide clinical benefit to patients in this very difficult to treat sub-set of CML where there are no other

approved treatment options," said Greg Collier, Ph.D., Managing Director and Chief Executive Officer of ChemGenex. "We would like to thank Dr. Cortes and all of our investigators for their efforts to produce this data. These results support our regulatory filings, and we look forward to working with the agencies in the U.S. and Europe over the next several months as we seek approval for Omapro in 2010."

Applications for marketing approval for Omapro are currently under review by the U.S. Food & Drug Administration (priority review), and the European Medicines Evaluation Agency.

The complete oral presentation by Dr. Cortes detailing this study will take place:

Date/Time:	Monday, December 7, 2009 at 4:45 p.m., U.S. Central Time
Abstract/Title:	#644: Safety and Efficacy of Subcutaneous-Administered Omacetaxine Mepesuccinate in Imatinib-Resistant Chronic Myeloid Leukemia (CML) Patients Who Harbor the Bcr- Abl T315I Mutation – Results of An Ongoing Multicenter Phase 2/3 Study
Oral Session:	Chronic Myeloid Leukemia - Therapy: Managing Resistance and Residual Disease
Location:	Conference Auditorium AB (Ernest N. Morial Convention Center)

About the Study

The study was designed to evaluate the safety and efficacy of subcutaneously (SC) administered omacetaxine in patients with imatinib resistant T315I+ Philadelphia chromosome positive CML. Eligible patients include adult CML Patients in chronic, accelerated, or blast disease phase (CP, AP, BP) with a confirmed Bcr-Abl T315I mutation and resistance to imatinib therapy. Patients were given 1.25 mg/m^2 SC omacetaxine twice daily for 14 days every 28 days until hematologic response for induction therapy. For maintenance therapy, patients were dosed 1.25 mg/m^2 SC omacetaxine twice daily for 7 days every 28 days. Eighty one patients were described in this presentation (49 CP, 17 AP and 15 BP). The median age was 58 years (19-83) with a median CML disease duration of 54 months (5-286). All patients had failed prior imatinib therapy, and 79% had failed two or more prior TKIs. The presence of baseline T315I mutation was confirmed in all patients.

About Omapro™ (omacetaxine mepesuccinate)

Omacetaxine mepesuccinate is administered subcutaneously and acts differently from TKIs. It may have a therapeutic advantage for patients who have failed TKIs. Omacetaxine is currently in global phase 2/3 clinical trials for CML and has been granted Orphan Drug designations by the U.S. Food and Drug Administration (FDA) and European Medicines Agency (EMEA) as well as Fast Track status by the FDA.

Omacetaxine is a first-in-class cetaxine with demonstrated clinical activity as a single agent in a range of hematological malignancies. Omacetaxine has a novel mechanism of action, specifically binding to the ribosomal A-site cleft and inhibiting protein translation of short-lived oncoproteins that are

upregulated in leukemic cells (particularly Cyclin-D1, Mcl-1 and c-Myc). In addition, pre-clinical research presented at the 14th Congress of the European Hematology Association (EHA) in Berlin, Germany this summer, demonstrated that omacetaxine kills human CML stem cells that are known to be insensitive to TKIs.

About Chronic Myeloid Leukemia (CML) and the Bcr-Abl T315I Mutation

Chronic myeloid leukemia (CML) is a cancer of the bone marrow with a worldwide prevalence of approximately 200,000 patients. The bone marrow is responsible for the production of specialized cells that constitute blood; these cells include red blood cells (to carry oxygen around the body), thrombocytes (to help stop bleeding) and certain white cells (part of the body's defense system against infection). In patients with CML the cell production system is diseased and defective. Cells multiply uncontrollably and do not fully develop (differentiate) into functional blood cells.

The majority of CML patients initially respond well to treatments with drugs called tyrosine kinase inhibitors (TKIs). However, a significant proportion of patients fail, or become intolerant to, one or more TKIs. In many of these situations the cause of failure can be traced to the emergence of Bcr-Abl mutations. A common mutation called T315I renders CML resistant to all currently approved TKIs, and has created a significant unmet medical need in the management of CML.

About ChemGenex Pharmaceuticals Limited

ChemGenex is an oncology focused biopharmaceutical company developing small molecules with new mechanisms of action to treat malignancies with significant unmet medical needs. The company is developing omacetaxine, its lead product candidate, for the treatment of patients with Chronic Myeloid Leukemia (CML), Acute Myeloid Leukemia (AML), and Myelodysplastic Syndrome (MDS). A New Drug Application has been accepted by the U.S. Food and Drug Administration and a Marketing Authorisation Application has been validated by the European Medicines Agency for CML patients with the Bcr-Abl T315I mutation. The corporate strategy for ChemGenex is to commercialize omacetaxine independently in North America and to establish commercial partnerships in the rest of the world. ChemGenex currently trades on the Australian Stock Exchange under the symbol "CXS" For additional information on ChemGenex Pharmaceuticals, please visit the company's website at http://www.chemgenex.com.

Details on the clinical trials can be accessed from the following websites:
http://www.clinicaltrials.gov/ct2/show/NCT00375219?term=homoharringtonine&rank=9 and

http://www.tkiresistantcmltrials.com

Omapro™ is a trademark of ChemGenex Pharmaceuticals Limited

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