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ChemGenex Presents Updated Analysis at ASH on OMAPRO™ in CML Patients who Failed Two or Three Approved TKI Drugs

- ***New analysis of clinical data indicates that OMAPRO™ could offer a new treatment approach for CML Patients who fail to respond to TKI therapy***
- ***OMAPRO™ induced durable major cytogenetic responses in 33% of chronic phase patients who failed currently approved drugs***

MELBOURNE, Australia, and MENLO PARK, California U.S.A. (6 December 2010)

ChemGenex Pharmaceuticals Limited (ASX:CXS) announced today the presentation of updated clinical data showing that OMAPRO™ (omacetaxine mepesuccinate) produced durable hematologic and cytogenetic responses in a significant proportion of chronic phase chronic myeloid leukemia (CML) patients, who had failed previous attempts to control their disease with two or three FDA-approved tyrosine kinase inhibitors (TKIs). The new data were presented at the 52nd Annual American Society of Hematology Meeting in Orlando, Florida (ASH).

At the CML therapy poster session Dr. Jorge Cortes MD, Chair, CML Section, Department of Leukemia, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center, Houston, Texas, and a lead investigator in ChemGenex's clinical studies, presented a poster on behalf of ChemGenex and a team of investigators from leading international clinical research centers concluding that OMAPRO™ represents a new potential therapy for patients with multi-TKI resistant CML.

Data were presented from 61 evaluable CML patients in chronic phase (defined as those who had been adjudicated by an independent Data Monitoring Committee (DMC) and had a bone marrow report available for cytogenetic assessment). Highlights of the data were:

- Major cytogenetic response (MCyR) rate of 33% in patients who had failed 2 TKIs – these patients failed imatinib and were also resistant to dasatinib or nilotinib
- MCyR rate of 20% in patients that had failed 3 TKIs – these patients failed imatinib and were also resistant to dasatinib and nilotinib

Data were also presented from the complete group of 85 chronic phase CML patients analyzed on an intent to treat (ITT) basis. Highlights of the data were:

- Overall MCyR rate of 20% with a median duration of response of 7.4 months (range 0.9 - 26+)
- Overall Complete hematological response (CHR) rate of 73% with a median duration of 8.2 months (range 0.7 - 42+)
- Median Overall Survival of 30 months

The most commonly reported (>5%) grade 3/4 treatment-emergent adverse events in the larger, 85 CML chronic phase ITT population were thromobocytopenia (64%), anemia (34%), neutropenia (47%), febrile neutropenia (14%), leukopenia (21%), lymphopenia (18%), pancytopenia (9%) and bone marrow failure (11%) and fatigue (5%). Grade 3/4 events were infrequent and managed by decreasing the days of dosing per cycle.

“We are very pleased with the data presented today that reveals the potential clinical benefit OMAPRO™ could have for a significant number of CML patients who, at present, have very limited 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.

ChemGenex plans to file a New Drug Application for OMAPRO™ for the treatment of CML patients who have failed two or more approved TKIs.

About the Poster

Abstract 2290. “Subcutaneous Omacetaxine (OM) Treatment of Chronic Phase (CP) Chronic Myeloid Leukemia (CML) Patients Following Multiple Tyrosine Kinase Inhibitor (TKI) Failure”. Poster Session: Chronic Myeloid Leukemia - Therapy: Poster II presented on Sunday, December 5, 2010 at 6:00 p.m.-8:00 p.m. U.S. Eastern Time. The location is Hall A3/A4 (Orange County Convention Center) Poster Board II-170.

About the Analysis

This analysis was based on data from existing Phase 2 clinical trials. Studies CGX-CML-202 and CGX-CML-203 were designed to evaluate the safety and efficacy of subcutaneously (SC) administered omacetaxine in patients who; (a) failed imatinib and had the T315I mutation, or (b) were intolerant to two or more TKIs respectively. Both studies are fully enrolled. Eligible patients were adult CML patients in chronic, accelerated, or blast disease phase (CP, AP, BP). Patients were given 1.25 mg/m2 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 five patients in chronic phase were described in this presentation. The median age was 61 years (26-83) with a median CML disease duration of 73 months (3-234) in CP.

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 currently approved 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).

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 up-regulated 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 in 2009, demonstrated that omacetaxine kills human CML stem cells that are known to be insensitive to TKIs.

Omacetaxine mepesuccinate is an investigational drug and not approved for market in any jurisdiction.

About Chronic Myeloid Leukemia (CML) and TKI Failure

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, significant proportions of patients fail or become intolerant to, one or more TKIs and this 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. A New Drug Application is under review by the U.S. Food and Drug Administration and a Marketing Authorisation Application is under review by the European Medicines Agency for CML patients who have failed imatinib therapy and have the Bcr-Abl T315I mutation. An additional New Drug Application is in preparation for CML patients who have failed two or more currently approved tyrosine kinase inhibitors. ChemGenex has established a corporate alliance with Hospira to develop and commercialize omacetaxine in Europe, the Middle East and parts of Africa, and is seeking to establish commercial partnerships in the rest of the world. ChemGenex plans to commercialize omacetaxine itself in North America. ChemGenex trades on the Australian Securities Exchange under the symbol "CXS". For additional information on ChemGenex Pharmaceuticals, please visit the Company's website at http://www.chemgenex.com.

OMAPRO™ is a trademark of ChemGenex Pharmaceuticals Limited.

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uncertainties associated with the development of the company's technology, the ability to successfully market products in the clinical pipeline, the ability to advance promising therapeutics through clinical trials, the ability to establish our fully integrated technologies, the ability to enter into additional collaborations and strategic alliances and expand current collaborations and obtain milestone payments, the suitability of internally discovered genes for drug development, the ability of the company to meet its financial requirements, the ability of the company to protect its proprietary technology, potential limitations on the company's technology, the market for the company's products, government regulation in Australia and the United States, changes in tax and other laws, changes in competition and the loss of key personnel. These statements are based on our management's current expectations and are subject to a number of uncertainties that could change the results described in the forward-looking statements. Investors should be aware that there are no assurances that results will not differ from those projected.