FOR IMMEDIATE RELEASE

CHEMGENEX ANNOUNCES POSITIVE SAFTEY DATA ON OMAPRO™ PRESENTED AT ASCO

MELBOURNE, Australia, and MENLO PARK, California U.S.A. (7 June 2010) – ChemGenex Pharmaceuticals Limited (ASX: CXS) announced that positive safety findings from a combined analysis of two clinical trials for its lead product candidate, OMAPRO™ (omacetaxine mepesuccinate), were presented today during a poster discussion session at the 2010 American Society of Clinical Oncology (ASCO) Annual Meeting in Chicago, Illinois.

Clinical investigators from cancer centres in the USA, Canada, France and Italy, reported on combined data from ChemGenex's two phase 2/3 clinical trials in chronic myeloid leukemia (CML) patients who either (a) had failed imatinib and had the T315I mutation, or (b) had failed imatinib and at least one other tyrosine kinase inhibitor (TKI). Data were presented from 170 patients: 93 in chronic phase, 42 in accelerated phase and 35 in blast phase. Conclusions from the analysis were:

- The primary toxicity of omacetaxine is hematologic, with infrequent grade 3/4 non-hematologic events experienced;
- Grade 3/4 hematologic adverse events were manageable and decreased in frequency and severity with dose adjustments; and,
- Injection site reactions were primarily grade 1/2 events, demonstrating that at-home subcutaneous administration of omacetaxine has an acceptable safety profile for CML patients who have failed prior therapies.

"Additional data continue to support that OMAPRO is safe and reinforces our belief that it is a promising candidate for CML patients who fail to respond adequately to tyrosine kinase inhibitors" said Greg Collier, Ph.D., Managing Director and Chief Executive Officer of ChemGenex. "We are in ongoing discussions with the FDA as we respond to the Complete Response letter to our New Drug Application for OMAPRO, and in Europe review of the Marketing Authorization Application by the EMA is proceeding according to schedule."

About OMAPRO™ (omacetaxine mepesuccinate)

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).

Omacetaxine mepesuccinate is administered subcutaneously and acts differently from TKIs. It may have a therapeutic advantage for patients who have failed TKIs. Omacetaxine has completed two phase 2/3 clinical trials for subsequent indications within 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.

About Chronic Myeloid Leukemia (CML)

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.

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. 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 Stock 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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expressed or implied by such statements, including, among others, risks or 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.