Haifa, Israel, September 15, 2011

Dear Shareholders,

I hope you have had an enjoyable, relaxing summer. We at Pluristem used the summer to prepare the company for a potentially very busy last quarter of calendar year 2011. In addition, over the last couple of months, we have made a number of significant announcements and developments, which I would like to discuss in more detail here.

License Agreement with United Therapeutics

As you know, we harvest adherent stromal cells (ASCs) from human placentas and expand these cells using Pluristem's proprietary three-dimensional technology to manufacture PLacental eXpanded cells, also known as PLX cells. We were able to provide clinical evidence that our "off-the-shelf" PLX cell product candidate requires no matching prior to local administration to patients. Since our PLX cells respond to signals from inflamed and/or ischemic tissue by secreting a variety of therapeutic proteins, the number of indications that the PLX cells could potentially treat is possibly large and continually growing. I believe that our first exclusive out-license agreement with United Therapeutics Corporation (NasdaqGS: UTHR), for the use of Pluristem's PLacental eXpanded (PLX) cells to develop and commercialize a cell-based product for the treatment of Pulmonary Hypertension (PH), demonstrates the potential of PLX cells to become the "engine" towards the development of many successful cell therapy products.

We believe that Pluristem's cell source, combined with our proprietary cell manufacturing technology and strong intellectual property, will enable Pluristem to implement its business model and to enter into additional out-license agreements with pharmaceutical companies in the future for the marketing of disease-specific therapies.

Clinical & Regulatory Updates:

FDA Orphan Drug Status for Treatment of Buerger's Disease

Recently, we were pleased to be informed that the US Food and Drug Administration (FDA) had designated orphan status to our PLX cells for the treatment of Thromboangiitis Obliterans (Buerger's Disease). We plan to conduct a Phase II study in India, where Buerger's Disease is highly prevalent, potentially followed by a multi-national Phase III study in the U.S., Europe and India.

The addition of Buerger's Disease to Pluristem's product candidate pipeline is part of our strategy to make PLX cells available for the entire spectrum of peripheral vascular diseases, from the treatment of early stage Peripheral Artery Disease (PAD); Intermittent Claudication (IC), through Critical Limb Ischemia (CLI), the end stage of PAD. Furthermore, the granting of orphan drug status for Buerger's Disease will potentially enable us to accelerate the time to market, as it provides us with significant regulatory and financial benefits.

CLI/IC Updates

The last patient of our CLI Phase I study in the U.S. will complete a 12-month safety follow up by the end of October 2011. We expect the results to confirm the safety profile of our PLX-PAD cells.

We plan to first submit a clinical application for the IC Phase II study and the Buerger's Disease Phase II study and then to move forward with the application for the CLI Phase II/III study.

As the production process to be used in the CLI Phase II/III clinical trials needs to be identical to the one we will use upon marketing, we are conducting an evaluation of the necessary scale up of key production activities to support this Phase II/III trial and potentially the marketing of the PLX-PAD product candidate.

We are excited to move forward with our clinical plans and are extensively preparing the company to successfully face the coming challenges.

Expanding Clinical Trials into Additional Product Candidates

We have also completed a scientific advice meeting with the Paul Ehrlich Institute (PEI), the German competent authority in the European Union, in which we discussed the design of a Phase I/II clinical study for the use of PLX cells as an adjuvant therapy for the recovery of muscle function following hip replacement surgery. We have agreed on a clinical protocol and plan to file a Clinical Trial Agreement (CTA) in the near future. Following potential regulatory protocol approval, we plan to initiate the clinical study in Germany.

Our New Manufacturing Facility

We recently announced our plans to expand manufacturing with a new state-of-the-art Good Manufacturing Practices (GMP) facility near the company's headquarters and existing facilities in MATAM Park, Haifa, Israel. The construction of the new facility stems from our belief that companies cannot produce the trillions of cells necessary to treat the large numbers of patients who will need them by using traditional approaches of growing cells, such as petri dishes or tissue flasks. Pluristem has capitalized on its proprietary 3-Dimension (3D) manufacturing technology and is proud to state that it is close to being one of the few cell therapy companies with the potential ability to mass produce stem cells for the treatment of numerous diseases. Our new facility will

support the manufacture of Pluristem's PLX cell product candidates for the treatment of numerous inflammatory and ischemic disorders, including cardiovascular, musculoskeletal, pulmonary and autoimmune diseases.

The new facility is expected to commence operations at the end of 2012 and is expected to have the capacity to produce PLX cells for the treatment of over 150,000 patients annually. As we widen our clinical product candidate portfolio and prepare to launch large-scale clinical trials worldwide, the facility will enable Pluristem to meet increased manufacturing capacity requirements. Additionally, our new facility will allow us to meet increased marketing demands following potential approval of our product candidates.

Financial Status

On September 12, 2011 we filed our Annual Report on Form 10-K for the fiscal year ended June 30, 2011. Our financials demonstrate a strong balance sheet with over $42 million in cash and cash equivalents. In August 2011, we announced the closing of the licensing transaction with United Therapeutics and in connection therewith received $7 million as an up-front payment. We anticipate our burn rate of cash over the next 12 months will increase as our clinical activities progress. However, we believe that if our current plans and market environment do not change, the capital we currently have will allow the company to support its planned activities until approximately the end of fiscal year 2014. Nonetheless, we believe that it is likely that we will need to raise additional funds before we have positive cash flow from operations.

In conclusion, we thank you for being part of the Pluristem family and we look forward to keeping you updated on our progress as we continue to expand our product line, move towards the launch of early phase testing of new products and conduct our PAD and muscle injury clinical trials.

Thank you very much,

Zami Aberman
Chairman and CEO

About Pluristem Therapeutics

Pluristem Therapeutics Inc. (NasdaqCM: PSTI; TASE: PLTR) is a leading developer of standardized cell therapy products for the treatment of life threatening diseases. The company's patented PLX (PLacental eXpanded) cells drug delivery platform releases a cocktail of therapeutic proteins in response to a host of local and systemic

inflammatory diseases. PLX cells are grown using the company's proprietary 3D micro-environmental technology and are an off-the-shelf product that requires no tissue matching prior to administration. Data from two phase I studies indicate that Pluristem's first PLX product candidate, PLX-PAD, is safe and potentially effective for the treatment of end stage peripheral artery disease. Pluristem's pre-clinical animal models have demonstrated PLX cells are also potentially effective in nerve pain and muscle damage, when administered locally, and in inflammatory bowel disease, MS and stroke, when administered systemically.

Pluristem has a strong patent portfolio, GMP certified manufacturing and research facilities, strategic relationships with major research institutions and a seasoned management team.

For more information visit www.pluristem.com, or follow us on Twitter @Pluristem, the contents of which are not part of this letter.

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Safe Harbor Statement

This letter to shareholders contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995 and federal securities laws. For example, we are using forward looking statements when we discuss the indications that PLX cells could potentially treat, when we

discuss the potential of PLX cells to become the “engine” towards the development of many successful cell therapy products, when we discuss our ability to implement our business model and sign additional exclusive out-license agreements with pharmaceutical companies in the future, when we discuss our clinical trial plans, the time to market, regulatory and financial benefits, or plans and expectations with respect to our various clinical trials, and the expansion of the use of our PLX cells into additional product candidates, when we discuss our plans and beliefs concerning our new facility, when we discuss our burn rate and the need to raise additional funds, when we discuss the safety and potential effectiveness of PLX-PAD for the treatment of end stage peripheral artery disease, or when we discuss the potential effectiveness of PLX cells in nerve pain and muscle damage, and in inflammatory bowel disease, MS and stroke. These forward-looking statements are based on the current expectations of the management of Pluristem only, and are subject to a number of factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements. The following factors, among others, could cause actual results to differ materially from those described in the forward-looking statements: changes in technology and market requirements; we may encounter delays or obstacles in launching our clinical trials; our technology may not be validated as we progress further and our methods may not be accepted by the scientific community; we may be unable to retain or attract key employees whose knowledge is essential to the development of our products; unforeseen scientific difficulties may develop with our process; our products may wind up being more expensive than we anticipate; results in the laboratory may not translate to equally good results in real surgical settings; our patents may not be sufficient; our products may harm recipients; changes in legislation; inability to timely develop and introduce or commercialize new technologies, products and applications; loss of market share and pressure on pricing resulting from competition, which could cause the actual results or performance of Pluristem to differ materially from those contemplated in such forward-looking statements. Except as otherwise required by law, Pluristem undertakes no obligation to publicly release any revisions to these forward-looking statements to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events. For a more detailed description of the risks and uncertainties affecting Pluristem, reference is made to Pluristem's reports filed from time to time with the Securities and Exchange Commission.