Unified Concept of Cancer Development and Metastasis – Experimental Evidences

The recent findings of Clonexpress strongly suggest a common mechanism that ultimately governs uncontrolled growth of different tumor cell lines despite their different etiology. The system developed by Clonexpress also suggests that there is probably one common agent (factor) in different tumor cell types which is at the top of the pyramid plays a key role in maintaining the uncontrolled growth of these tumor cell lines. Therefore, this system presents an opportunity to develop antagonists and inhibitors to this common factor to prevent tumor growth. The system developed at Clonexpress has thus led to an important insight for a unified concept of cancer development and causation of metastasis. The important findings are:

1. Difference in cell growth mechanism between normal cells and tumor cells - tested by ability of functionally enucleated normal and tumor cells to activate growth of normally non growing human primary cells.
2. A common mechanism of growth in many different tumor cell types - functionally enucleated tumor cells (all diverse tumor cell lines) activate growth of normal non dividing human primary cells.
3. Activation of growth of normal cells by enucleated tumor cells requires three factors.
4. The growth activated normal cells (first generation cells) continue to produce the same or similar kind of agent (factor) continuously, similar to different tumor cell lines – tested by the ability of functionally enucleated first generation cells to activate growth of other normal cell (second generation cells). This also requires the same three factors for continuous growth.
5. The three factors identified by Clonexpress play a key role in causing metastasis by activation of growth of mesenchymal cells, present at both proximal and distal to the primary tumor, by agents (factors) released from dying tumor cells.
6. Drugs can be developed against the three targets identified by Clonexpress to prevent and cure metastasis completely.
7. Antagonists and inhibitors to the agent (factor) from tumor cells responsible for activation of growth of mesenchymal cells can be developed to prevent growth of both the primary tumor as well as metastasized cells.

These findings will open up new possibilities to prevent cancer and metastasis completely. This system can be utilized to develop new class of drugs that are without any severe side effects that is common with chemotherapy and radiation therapy (hair loss, hematological and gastrointestinal problems). This will certainly save millions of lives. Clonexpress now is actively seeking partnership with companies that are working in cancer area. This unified concept of cancer using the system developed by Clonexpress will play a major role in combating cancer and metastasis. More information about the technology can be obtained from www.clonexpress.com