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# Verastem IPO Validates Investor Interest In Cancer Stem Cell Approach

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By Chemistfrog

Despite decades of progress in treating cancer along many fronts, the rate of recurrence remains relatively high for many types. In an aggressive cancer, such as glioblastoma multiforme (GBM), a common form of brain cancer, recurrence typically occurs within less than a year. Even though closely monitored after the initial treatment of surgery and/or radiotherapy along with chemotherapy, the historical median progression free survival is still dismal at about 6.9 months.

With several known mechanisms by which cancer recurrence is enabled, scientists are discovering that recurrence can be additionally driven by a small population of cells in tumors known as cancer stem cells (CSCs) or tumor initiating cells. Conventional cancer treatments, such as radiotherapy and chemotherapy can kill normal tumor cells that grow quickly and as a result are more susceptible to these agents. These standard of care treatments, however, are unable to eliminate CSCs as these cells grow more slowly and more closely resemble healthy cells in their resistances. As a result, the tumor(s) can eventually return due to these remaining CSCs with an apparent increased resistance (one might even say "learned") to the agents used to kill the first generation cancer cells. Pertaining to CSCs and other mechanisms driving cancer recurrence, Professor of Oncology, Hiram Levitsky, of John Hopkins University [stated](#):

*"Well over 50% of the common cancers can be treated into a state of minimal residual disease. What we lose patients to is typically not the inability to get the disease into that minimal state, but rather the inability to completely eradicate the residual component.*

Several biotechnology companies, including Verastem ([VSTM](#)), ImmunoCellular Therapeutics ([IMUC.OB](#)), OncoMed Pharmaceuticals, Boston Biomedical, and Stemline Pharmaceuticals are developing novel therapies that target CSCs with the hopes of preventing or delaying tumor recurrences. These are in different stages of development with each offering its own unique hope in treating the devastating disease.

In spite of a challenging financing environment for early-stage biotechnology companies, last week Verastem raised [\\$55 million in an IPO](#), selling 5.5 million shares priced at \$10 per share. Previous investors who had purchased \$16.3 million of the offering may have boosted interest in the IPO. Shares traded almost as high as \$11.50 (up over 11%) on the first day of trading. This values the company at a market capitalization of about \$250 million indicating the market's enthusiasm for the novel CSC targeting approach. This interest not only indicates investor sentiment in this approach now in its infancy, but also

may represent Big Pharma's coming interest possibly leading to partnerships and acquisitions in order to gain entry at these levels rather than chasing the technology later. Another key player in the technology that has already shown great promise with impressive Phase I results out is the microbiotech player, ImmunoCellular Therapeutics an under-the-radar biotech that is further advanced in clinicals than Verastem and represents an excellent means to invest in the CSC technology. ImmunoCellular sports a valuation just 20% of Verastem and could see significant interest in the coming months with its upcoming catalysts

Prominent MIT scientists Piyush Gupta, Robert Weinberg, and Eric Lander founded Verastem in 2010. The company's management team has an impressive track record and history. CEO, Christoph Westphal, previously sold Sirtris Pharmaceuticals to GlaxoSmithKline ([GSK](#)) for \$720 million. He was also cofounder and CEO of Alnylam Pharmaceuticals ([ALNY](#)) and Momenta Pharmaceuticals ([MNTA](#)). Verastem is funded by well-known venture capitalists, including MPM Capital, Astellas Venture Management, Cardinal Partners, and Bessemer Venture Partners. The company's pipeline includes a number of small molecule compounds that can reduce CSCs currently all in preclinical development. Verastem's management intends to initiate Phase I clinical trials by late 2012 placing it well behind ImmunoCellular's [Phase II ICT-107 trial](#) that initiated in early January 2011.

ImmunoCellular's technology is based on research from renowned neurosurgeons John Yu and Keith Black at Cedars-Sinai Medical Center. The company's lead product, ICT-107, is currently in a randomized, placebo-controlled, multicenter, Phase II study in about 100 GBM patients. Management expects enrollment completion in Q2 2012, an interim analysis from the Phase II study in Q4 2012 and final results at the end of 2013. ICT-107's Phase I study showed extremely promising results in patients with GBM with extended median survival almost two years when compared to historical standard of care. The three-year disease free survival rate was 38% in patients treated with ICT-107 versus only 6% for historical controls.

ImmunoCellular management recently raised \$10.5 million to fund the current Phase II study, as well as new clinical studies in ovarian and other cancers. Major investors in this and the last round have included healthcare funds, such as Ayer Capital, Highland Capital, DAFNA, and Strauss Capital. The share price is already up about 25% since the last round of financing just a few weeks ago indicating investor confidence in the company's future.

While both Verastem and ImmunoCellular may still be a little early in development, investors should take note that biotechnology companies developing novel therapies in oncology are very attractive to potential acquisition. Celgene ([CELG](#)) just announced the [acquisition of Avila Therapeutics](#) for as much as \$925 million with milestone payments. Avila's lead drug, a Bruton's tyrosine kinase inhibitor, is only in Phase I development for lymphoma. Amgen ([AMGN](#)) recently announced the [acquisition of Micromet \(MITI\)](#) for \$1.16 billion. Micromet's lead product, blinatumomab, is currently in Phase II trials for leukemia. Recall also that AMGN also acquired BioVex early last year for up to \$1

billion with milestone payments to get its hands on OncoVex, an oncolytic virus currently in Phase III trials for melanoma.

Based on recent acquisitions in the oncology sector, the potential upside for both Verastem and ImmunoCellular is significant. Keeping that in mind, ImmunoCellular is relatively undervalued compared to Verastem with a market capitalization of only \$50 million versus \$250 million, respectively. ImmunoCellular's lead product is already in a randomized Phase IIb study, while Verastem's pipeline is still in preclinical development. The gap in valuation between the two companies could likely close rapidly as ICT-107 gets closer to Phase II interim results over the next 12 months. Time will only tell as to how much ImmunoCellular's valuation will go up in order to more fully close the gap or how much (or if) Verastem's valuation will trend down with its pipeline still in preclinical. Consider one scenario, perhaps investors in Verastem are not hinging their bets on the future possibilities of the company's pipeline but rather are looking at the management's history and betting on buyout potential or partnerships? If so, how long before that euphoria carries over to ImmunoCellular with a much smaller market capitalization and more advanced pipeline? This is the biotech sector, and Big Pharma is always looking for ways to shore up its pipelines, start up new divisions via acquisition rather than development from ground floor and add newer, novel drugs to replace their older ones losing patent protection soon. 2012 will be an eventful year full of catalysts, acquisitions, partnerships and rumors for cancer stem cell focused drugs used to fight one of man's biggest killers.

**Disclosure:** I have no positions in any stocks mentioned, but may initiate a long position in [IMUC.OB](#) over the next 72 hours.