



Bellicum Pharmaceuticals – BLCM (6/3/19)

Description: Bellicum Pharmaceuticals, Inc. was founded in Houston, Texas in 2004 and is a clinical stage biopharmaceutical company focused on discovering and developing novel cellular immunotherapies for various forms of cancer, including both hematological and solid tumors, as well as orphan inherited blood disorders. The company's clinical product candidates include:

1. Rivo-Cel (formerly known as BPX 501)
2. BPX-601
3. BPX-603
4. BPX-802
5. BPX-701

Ticker: BLCM

Price: \$1.96

Market Cap:

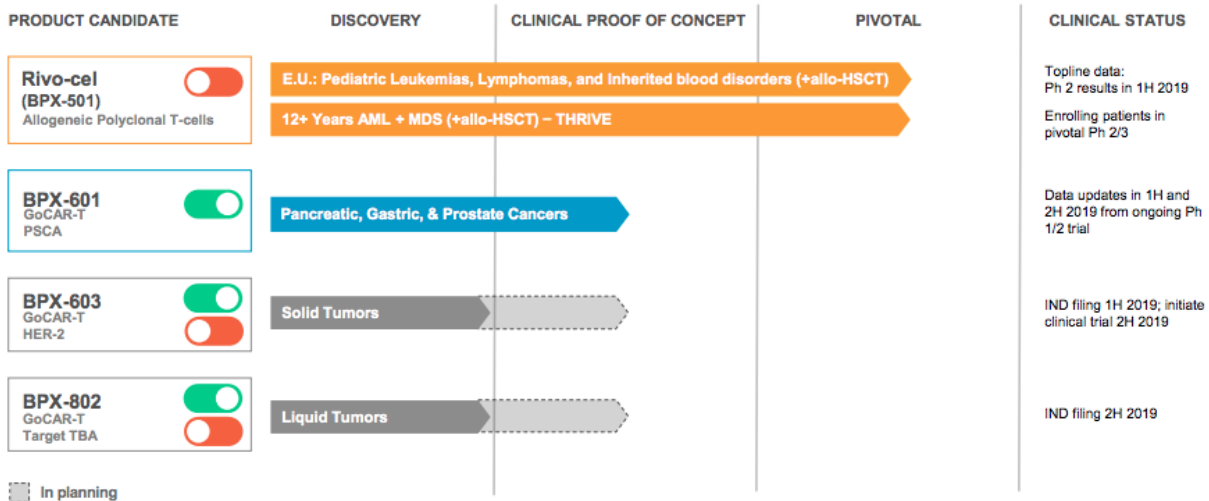
Performance: -32.9% YTD

Analysis

Bellicum Pharma is another name in the CAR-T space but unlike some that have been moving higher, BLCM has been moving lower – a lot lower. The company has now lost **92% of its value** since going public in December of 2014.

Before we get into the fundamentals and discuss what the company is working on, it's important that we note this company is extremely speculative and risky.

We listed the drugs that BLCM is working on, let's dive in a bit.



1. Rivo-cel is in Phase II/III clinical trials to improve hematopoietic stem cell transplantation outcomes in the treatment of hematologic malignancies, including leukemias, lymphomas, and inherited blood disorders
2. BPX-601 is an autologous GoCAR-T product candidate, which is in Phase I/II clinical trials for treating solid tumors expressing the prostate stem cell antigen.
3. BPX-603 is a dual-switch GoCAR-T product candidate to treat solid tumors that express the human epidermal growth factor receptor 2 antigen
4. BPX-802 is a dual switch Go-CAR-T product candidate to treat an antigen expressed in hematological malignancies
5. BPX-701, though not listed in the company's timetable above, is a T cell receptor candidate, which is in Phase I clinical trial for the treatment of malignant cells expressing the preferentially-expressed antigen in melanoma

BLCM does not bring in any revenues. We initially looked at Seeking Alpha and other sites that displayed revenue growth and we thought perhaps one of their drugs was making money for them but upon further review of their 10-Q it turns out the company counts grant money as revenue which is pretty odd to us. At this moment in time, BLCM only has one drug in Phase II/III trials so it could be sometime before we actually see any legit revenues from the company – more on this later.

Before going any further, we have discussed it before but to freshen your memory, CAR-T (Chimeric Antigen Receptor Therapy) is a type of treatment in which a patient's T cells (a type of immune cell) are changed in a laboratory so they will bind to cancer cells and kill them. In other words, it's almost like supercharging the body. The blood from a vein in the patient's arm flows through a tube to an apheresis machine which removes the white blood

cells, including the T cells, and sends the rest of the blood back to the patient. Then, the gene for a special receptor called a chimeric antigen receptor (CAR) is inserted into the T cells in the laboratory. Millions of the CAR T cells are grown in the laboratory and then given to the patient by infusion. The CAR T cells are then able to bind to an antigen on the cancer cells and kill them. Put even easier, it involves treating patients with modified versions of their own immune system T cells, white blood cells, that help protect the body from diseases by stripping them from the blood, souping them up, and putting them back into the blood stream.

While having a few different products in the pipeline is nice to see, investors are currently banking on Rivo-Cell to get shares heading back in the other direction. Rivo-Cell is intended to improve HSCT (hematopoietic stem cell transplantations are performed for the treatment of lymphoma, leukemia, immune-deficiency illnesses) outcomes in the treatment by aiming to improve overall transplant outcomes, faster immune recovery, lower rates of infection and lower rates of disease. They are currently conducting a pivotal randomized Phase 2/3 global clinical trial, called THRIVE, for rivo-cel in adult and adolescent patients 12 years and older with intermediate and high-risk acute myeloid leukemia (AML) or myelodysplastic syndromes (MDS). The results are currently looking good as according to BLCM’s site, “Results demonstrated 90.9 percent event-free survival (EFS) rate at 180 days for malignant and nonmalignant patients treated with rivo-cel (n=166) after a stem cell transplant from a haploidentical donor. These results appear comparable to an interim evaluation of patients who received a matched unrelated donor (MUD) transplant in the concurrently run observational study (n=91), demonstrating an 87.7 percent EFS rate at 180 days.”

Being in Phase II/III is good foundation but as you can see from the image below it doesn’t look like BLCM is going to generate any revenues this year and maybe not even next year as they are looking for approval sometime in 2020.

	1H'19	2H'19	2020
BPX-601	Presentations of updated Phase 1 results (Flu/Cy regimen) at ASCO Amend BP-012 to allow for repeat dosing of rimiducid to reactivate iMC	Presentation of updated Phase 1 results (repeat rimiducid dosing)	Updated Phase 1 and Phase 2 results
CAR-T PIPELINE	IND submission for BPX-603	First patient treated in BPX-603 Phase 1 trial IND submission for BPX-802	BPX-603 Phase 1 data BPX-802 Phase 1 data
Rivo-cel	Final analyses of BP-004 and C/CP-004 trials	MAA submissions for rivo-cel and rimiducid for pediatric patients	Potential MAA Approval THRIVE Phase 2 data

The general approach for FDA approval of a new drug is to require data from two adequate and well-controlled, Phase 3 clinical trials of the relevant biologic or drug in the relevant patient population. Phase 3 clinical trials typically involve hundreds of patients, have significant costs and take years to complete. There's a possibility the FDA will only require one single Phase 3 clinical trial strategy from BLCM but the FDA may ultimately require more than one Phase 3 clinical trial and may limit clinical trial designs allowed to serve as a registration trial, thus pushing these dates even further out.

With this in mind, we think dilution is going to continue to be a very familiar event at BLCM. The company has already stacked up over \$400M in accumulated losses since forming the company and during the three months ended March 31, 2019, they had a net loss of approximately \$24.5M and negative cash flows from operations of approximately \$24.6M. With roughly \$78M in cash on hand, the company believes they'll have enough to get them through 2019 but we don't buy it or it's technically true but that doesn't mean they won't do another secondary offering in 2H19 to get them through 2020. We believe it's almost a guarantee because at a cash burn of almost \$25M a quarter they'll run through just about every single dollar in the next three quarters.

The case is usually the same here when we analyze these nanocap biotech stocks. We really don't like them as more often than not they only know how to fall and are extremely speculative. At best we look at them as trading vehicles due to their above average volatility.

If you're very interested in this space we believe the risk/reward is better with a genomic ETF like ARKG or more established CAR-T players that are either further along like Novartis (NVS) or Gilead (GILD) or have companies that have better partnerships like Crispr (CRSP, we've done research on), Voyager (VYGR), BlueBird Bio (BLUE), and Collectis (CLLS) to name a few. We aren't saying any is necessarily better than the other but wanted to give you a few names to also look into if you want exposure to the gene therapy space. We are bullish on the industry with some reports we've seen calling for explosive growth over the next several years. For example, Allied Market Research said the global gene therapy market accounted for \$584M in 2016 and is estimated to reach \$4.4B by 2023, registering a CAGR of 33.3% from 2017 to 2023. We are bullish on the industry as seen by our holdings in Illumina (ILMN) but are also looking heavily into the ARKG ETF mentioned as the industry is still very young in its days and we aren't truly sure who is going to come out on top but want a piece of it.

Below is a little technical analysis on BLCM.

Technical analysis



The stock has hit oversold on major metrics we use which are the Relative Strength Index (RSI), Money Flow Index (MFI), and Williams %R. The stock has been in a steady freefall from \$3.09 to \$1.96 with little-to-no bounces and on high volume which is a really bearish indicator. The Bollinger Bands indicate there should be some support at \$1.79 and the fibonacci levels show some more support at \$1.54 in the case it breaks below \$1.79. The stock usually doesn't stay oversold for longer than two weeks (the only time was in the December market rout) so it is looking like a bounce is coming. How high that bounce goes is tough to say as many people will be looking to unload their bags after the freefall. This

chart has been on a downward descent since late 2016 and it's going to take some really good news to get the trend heading north consistently. News that we're not sure is around the corner anytime soon. While not technical, insiders have also not been quick to jump on the falling share price the last 3 months or twelve months according to NASDAQ which we find very concerning considering a year ago shares were nearly \$8.

