
	Price as of 6/5/2015	52 Week Range	Market Cap.	Beta	Industry	Sector
					42.01	19.06 – 43.42	1.74	-	Healthcare	Biotechnology

While Chimerix's fully owned patent portfolio is fairly small, a number of licensing agreements have allowed the company to develop beyond its own proprietary technology. Combining in-house and licensed patents gives Chimerix a strong exclusivity position if its CMX001 and CMX157 candidates pass through clinical trials. With no glaring prior art problems and strong third-party interest in its technology, the market may be overweighting Chimerix's IP risk. M-CAM believes the company's IP risk is lower than industry average, which should allow for a clean product launch and make Chimerix an attractive acquisition target for Gilead, Novartis, and other large pharma players.

Highlights

- CMRX, through licensing agreements, has secured strong IP protection for its current pipeline.
- Gilead and Novartis are early leads for a CMRX roll-up.

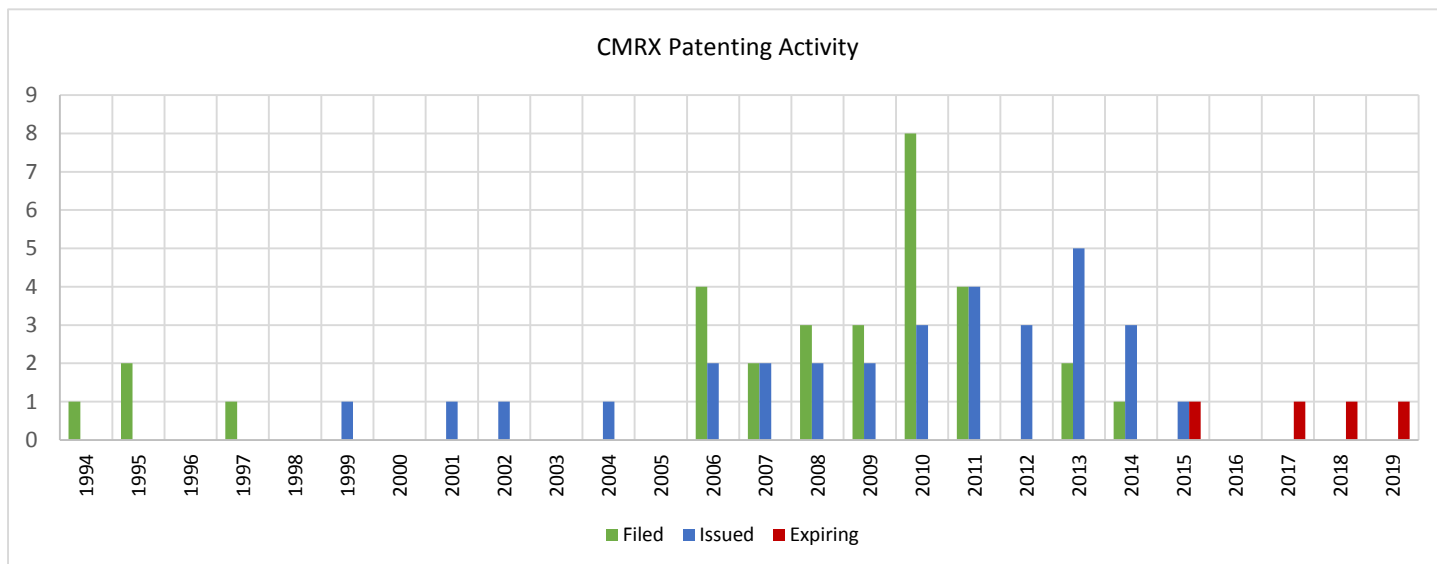
Revenue Security

Chimerix currently has two antiviral compounds in clinical trials with a third in the discovery phase. To protect its advancements, Chimerix owns nine U.S. patents and associated international equivalents dating back to 1994 with expiration dates extending to 2034. Seven of these patents were applied for by Chimerix itself, while the two oldest appear to have been purchased from the family trust of Dr. Karl Hostetler, the lead creator of CMX001 while he was at the University of California, Santa Barbara. Chimerix has also exclusively licensed six patents from the UCSB which round out the core portfolio needed to protect its three compounds. The company claims to have 135 patents and applications licensed from academic institutions but all patent numbers have been omitted from public licensing documents. Analysis of Chimerix's IP position would benefit from a full disclosure of the terms of current licensing agreements.

The good news is, with its publicly disclosed portfolio, Chimerix appears to have fairly comprehensive coverage for its current candidates. Each studied use of the compounds is covered by multiple patents in the current portfolio. Of the trials underway, Advise, the use of CMX001 to treat adenovirus (AdV), appears to have the weakest patent protection, as only two of Chimerix's patents specifically claim the treatment AdV. Apart from this, the only other concern for the portfolio is limited geographic coverage. Based on the patents owned by and publicly licensed to Chimerix, exclusivity for the current pipeline would only extended to the U.S., Canada, and Europe.

M-CAM conducted an analysis of all prior and subsequent patents and applications relevant to the Chimerix pipeline. While it is clear that Chimerix is not the first to attack viral infections using prodrugs, it does not appear to be infringing any patents with its current compounds. Players like Gilead, Roche, University of North Carolina, and Vical all hold significant volumes of patents which predate much of the Chimerix portfolio and are aimed at attacking the same viral infections. However, none of these parties have claimed the same chemistry used by Chimerix and so do not represent a significant prior art risk.

There are a number of players which have closed-in on Chimerix's technology more recently. A few universities, Cagliari in Italy, Montpellier 2 in France, and UNC, have been actively developing their own parallel compounds and may represent future research or licensing prospects. Gilead and Novartis have been actively patenting similar antivirals but neither have oral drugs in pipeline that would compete with Chimerix. This could indicate that these two are early frontrunners for an acquisition of Chimerix or part of its pipeline if FDA approval is achieved.



IP Event Analysis

01/12/2015	Brincidofovir Composition of Matter Patent Exclusivity Extended to 2034
01/30/2015	Ends Brincidofovir Ebola Trials to Focus on CMV Applications
02/24/2015	U.S. Pat. No. 8,962,829 Granted
03/31/2015	U.S. Pat. No. 8,993,542 Granted
05/11/2015	Awarded \$100M BARDA Contract for Brincidofovir for Smallpox

In January, CMRX's lead compound, Brincidofovir had its patent exclusivity period extended into 2034. While this doesn't guarantee any success for CMRX's business with this compound, it does extend potential revenues if Brincidofovir receives approval from any FDA trials. This is a positive, if predictable development.

Also in January, CMRX ended its pursuit of Brincidofovir as an Ebola treatment. This is a smart decision as Ebola is generally viewed as a time-limited health concern and Brincidofovir's other potential applications represent more sustainable business lines.

February and March saw the granting of two new patents to CMRX in the US. The first covers an administrative routine for using Brincidofovir to treat HIV and HBV. This further reinforces the possibility of CMRX pursuing clinical trials in these areas in the near future. The second patent claims a new morphic form of Brincidofovir.

In May, CMRX was awarded a \$100M contract by BARDA for the procurement of Brincidofovir for Smallpox trials. The contract represents a potent of \$435M in total award over a 60-month period. CMRX owns and licenses several US patents which claim the treatment of poxvirus infections using their compounds with exclusivity periods extending through 2031. This contract represents important funding for Chimerix to continue research and trials, but for the business to survive they will need a commercially viable form of Brincidofovir to be approved.

Innovation α TM

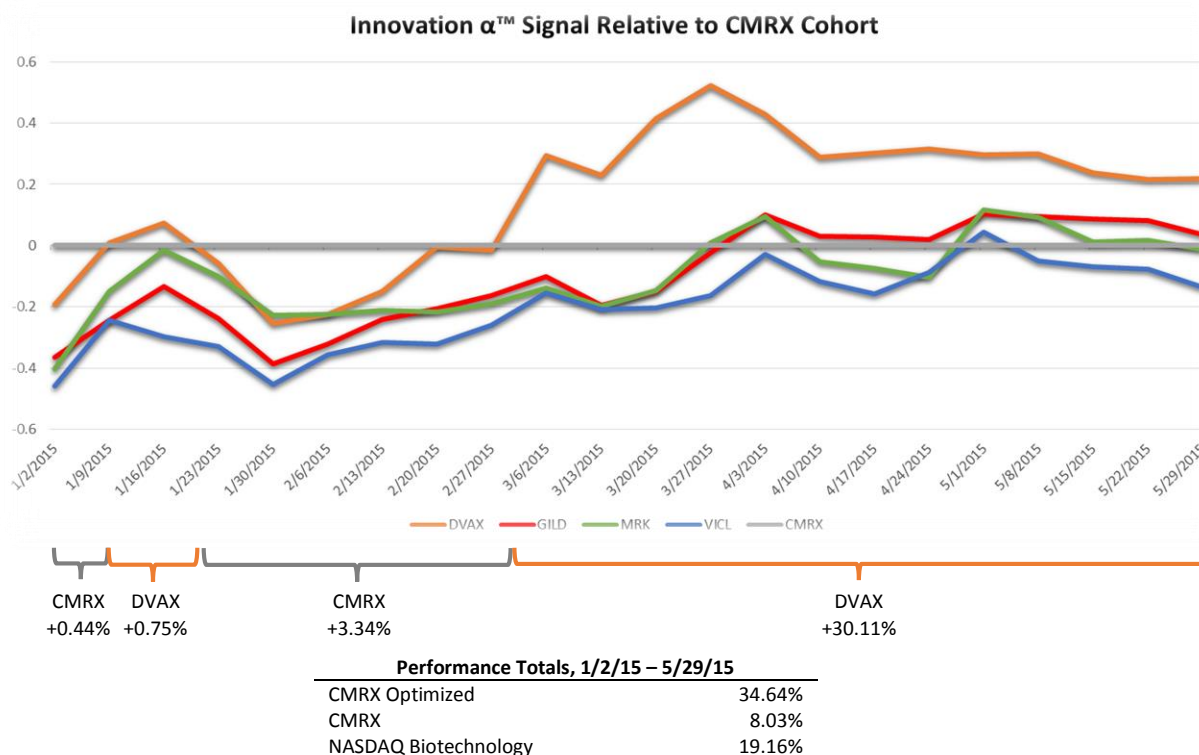
M-CAM's Innovation α algorithm is a statistical process which measures qualitative "best" and "worst" proprietary assets and their use by a company and then predicts the equity price premium or discount associated therewith across all competitors. This analysis provides an absolute qualitative and quantitative measure of each individual company's innovation and management thereof. It also provides a relative score of how one company's performance is likely to compare with others with whom it cooperates or competes. The measured difference between better and worse performers is Innovation α .

Company	Symbol	Ranking 5/29/15 ¹	Price 6/5/15	52-Week Hi-Lo	Mkt. Cap (\$B)	EPS	P/E
Dynavax Technologies Corp.	DVAX	1	21.86	13.10 - 26.89	0.64	-3.89	N/A
Gilead Sciences Inc.	GILD	2	113.96	78.50 - 116.83	167.48	8.77	12.99
Chimerix, Inc.	CMRX	3	42.01	19.06 - 43.42	1.74	-1.94	N/A
Merck & Co. Inc.	MRK	4	58.99	52.49 - 63.62	166.66	3.85	15.33
Vical Incorporated	VICL	5	0.97	0.85 - 1.39	0.09	-0.19	N/A

¹M-CAM's cohort ranking is based on our proprietary Innovation α methodology and is used to inform investment decisions within industry and innovation sectors.

The above table shows the U.S. traded companies which most closely track with Chimerix's patent portfolio. While none of these companies represent any direct risk to Chimerix's patent position, they all have current or pipeline products which would compete with Chimerix in the market. The Innovation α ranking indicates that Dynavax, Gilead, and Chimerix hold strong positions in this cohort and are expected to outperform Merck and Vical in the coming quarter.

The chart below shows how each component of the Chimerix cohort has scored over the last six months. Chimerix is represented by the x-axis and any company with a positive score is expected to outperform Chimerix in the following three months. Using these data three months ago, we would have expected Dynavax to outperform the rest of the cohort into June.



Innovation α Explained

M-CAM has measured the “creditworthiness” of Intellectual Property (IP) and Intangible Assets (IA) for nearly two decades through numerous boom and bust cycles. Simply put, this means that we examine the actual assets – contracts, patents, licenses, copyrights, designs, trademarks, permits, etc. – held by firms; compare them qualitatively to the equivalent rights held by other firms; and, characterize the economic consequence of these assets on the underlying enterprise. To do this, we maintain the world’s largest repository of state-granted rights from over 160 countries representing, in some instances, over 200 years of historical data. Using our internationally recognized, unrivaled unstructured text **linguistic genomic** algorithms, we measure the quality of these rights and associate them with business transactions reported in financial statements, contracts, bid proposals, trade records and other publicly available (but hard to find) data. This analysis provides an absolute qualitative and quantitative measure of each individual company’s innovation and management thereof. It also provides a relative score of how one company’s performance is likely to compare with others with whom it cooperates or competes. The measured difference between better and worse performers is **Innovation α TM**.

We have used the **Innovation α** methodology in our pre-qualification and underwriting reviews of over \$250 billion in senior secured credit transactions. We run weekly updates on our review of over 80 million proprietary assets held by over 80,000 publicly traded firms and millions of private firms worldwide. From Albania to Zimbabwe, our data and underwriting covers the world. And unlike consulting and advisory firms that carelessly offer assumption-laden opinions, we put our money behind our convictions.

We formed Purple Bridge LLC, the world’s only text-based, quantitative, algorithm equity fund. **PB1** uses **Innovation α** signal to identify large cap public equities that will outperform their market / index cohorts while matching index risk. This proprietary algorithm Limited Partnership Fund targets an annualized accretive 16% index out-performance yield.

We provide Active Managers and Fiduciary Agents access to the **Innovation α** signal for their own use. This can include:

- Informing equity selection
- Qualifying asset-level conviction on core business theses
- Quantifying duration, weighting, and portfolio balancing inputs
- Tracking rebalancing event horizons to expand or contract positions based on market changes.

This can be done on a single time basis or can be integrated as a licensed signal for on-going use by a Manager.

On an individual name basis, we will provide Active Managers and Fiduciary Agents detailed research to underpin due diligence performed on one or more names. This research can be provided on an exclusive or non-exclusive basis and can include long / short and β -neutral paired strategy advice.

All of the **Innovation α** data underpinning our methodology is public data. Our collection, organization, analysis, and model inputs using this information is proprietary and unprecedented. And unlike other quantitative traders, we don’t have to hide behind a ‘black box’. Our investors and signal licensing partners are welcome to a transparent engagement with our process.

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