

10 May 2019 | **Analysis**

Israel Looks To Nurture New Leaders For Burgeoning Biotech Sector

Israeli Industry And Investment Leaders Discuss Market Development

by **Kevin Grogan**

While Israel has not wanted for early-stage scientific excellence, leading lights in the country's biotech space are working to create an ecosystem where clinical, regulatory and managerial expertise can develop.

Israel's life sciences sector is celebrated for its academic excellence and extensive basic R&D coming out of the likes of world-renowned establishments such as the Weizmann Institute and the Hebrew University of Jerusalem. There has historically been a lack of homegrown leadership to establish companies that can bridge the gap between discovery and getting products into late-stage trials, but this it is changing.

Someone well-equipped to see how the sector is developing and how companies are being created is Anat Naschitz, a managing director at health care investment firm OrbiMed, which is currently investing out of its second Israel-focused \$307m venture capital fund. While the country has a thriving medtech industry, and is known for its expertise in fields like cybersecurity, artificial intelligence, IT and smart phone technology, "historically, there wasn't that much biotech investment and as a result, there was also less biotech entrepreneurship, although there was a lot of innovation happening in academia," she told *In Vivo* in a recent interview.

That innovation was being licensed directly from universities to big pharma (see table) with not much in between. "There was no biotech industry *per se* here," said Naschitz, but OrbiMed, other

***Israel's Medtech Market Evolution:
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investors, and crucially the government through the Israel Innovation Authority, have invigorated the sector. This has helped firms move from preclinical to clinical development and perhaps beyond. “We now see a vibrant biotech industry developing exciting science.”

Naschitz cited the example of 89bio, which OrbiMed founded after acquiring a non-core asset from Teva, now called BIO89-100, which is currently in Phase I for nonalcoholic steatohepatitis (NASH). The drug is a long-acting glycopegylated fibroblast growth factor 21 (FGF21) analog and the company closed a \$60m series A financing in October, led by OrbiMed, while Longitude Capital, RA Capital Management and Pontifax also participated.

89bio, which is headquartered in San Francisco with R&D operations in Herzliya, Israel, has a drug with strong preclinical data behind it that came from big pharma and is being developed in the hot area of NASH. The therapeutic candidate has shown activity in both metabolic and fibrosis endpoints of the disease, Naschitz noted. Pointing out that FGF21 is a clinically validated target, she said BIO89-100 had demonstrated a long half-life in preclinical studies, potentially enabling extended-interval dosing, and it has already attracted some interest from companies focusing on NASH.

Exhibit 1.

By Catherine Longworth

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Medtronic’s multi-billion-dollar acquisition of Mazor Robotics in 2018 marked a record-breaking milestone for Israel’s life sciences industry as the largest amount ever paid for an Israeli company in the medical sector, beating Mitsubishi Tanabe Pharma’s \$1.1 billion acquisition of Neuroderm in 2017. In Vivo investigates how aMoon II, a new VC fund, aims to produce the industry’s next big giant.

[*Read the full article here*](#)



OrbiMed has helped to assemble a strong leadership team at 89bio "that can flex themselves along the way and adjust to what life has to offer," Naschitz said. "You want to see a team that represents very deep science and an ability to manage the trials and also interact with people who would want to ultimately buy it or take it public."

So does the biotech sector in Israel have the right people to bridge the gap between preclinical and the clinic? Naschitz is confident it has, "we have excellent, smart people who are very tenacious and very strong and there is a developing cadre of people that have that expertise. Some of them are homegrown and some of them are people who have been in big pharma or biotech companies abroad who either have returned here, or continue to work somewhere else, but are good partners for Israeli companies because they know how to work with them."

Compugen's Agenda

An established Israeli company that has assembled a strong management team, an impressive scientific advisory board and signed up some major big pharma partners is [Compugen Ltd.](#) and its CEO Anat Cohen-Dayag has ambitious but realistic targets going forward.

Spotlight On Israel: Market Challenges Stunting Biopharma Growth

By [Lucie Ellis-Taitt](#)

"We are not a big pharma company that has deep pockets, so we need to build our path forward strategically and financially in the right way," she told *In Vivo*.

Compugen has transitioned from being a firm with computational predictive discovery capabilities to one that in 2018 saw two clinical trials begin: COM701, a first-in-class antibody targeting a new immune checkpoint discovered by

Compugen called *PVRIG*; and [Bayer AG](#) initiating a Phase I study for BAY 1905254, an anti-ILDR2 antibody, again computationally discovered by the Holon-headquartered group.

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Scrip investigates the big issues Israel's biopharma sector need to overcome in order to maintain momentum and achieve sustainable success.

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Last year also saw Compugen ink a couple of major deals. It linked up with [Bristol-Myers Squibb Co.](#) in October to evaluate COM701 in combination with the latter's PD-1 inhibitor Opdivo (nivolumab) in patients with advanced solid tumors, banking a \$12m equity investment from the US major. In April 2018, a pact was signed with [AstraZeneca PLC](#), through which the UK-headquarter pharma giant paid \$10m upfront for a license to develop bispecific and multi-specific antibody products derived from Compugen's pipeline.

Cohen-Dayag noted that having reached "these important inflection points," Compugen has recently undertaken a strategic review designed to cut overlapping R&D and general administration activities in Israel and the US. This will result in a 35% workforce reduction (approximately 35 employees) and will bring in savings of up to \$10m on an annual basis. Restructuring costs are expected to be in the range of \$27m-\$29m.

These measures should extend the company's cash runway through mid-2020 to enable the planned expansion of the ongoing Phase I study for COM701. "To be a robust biotech company, you need to be able to bring yourself to the industry standard and you need to learn it from someone," Cohen-Dayag said.

She added that "we're getting a lot of help from good advisors and we listened very carefully. Obviously, we make judgment calls on what we do internally but good advice is priceless, scientifically and strategically."

Compugen has got some heavyweight strategic advisors as well, such as Elliott Sigal, president of R&D for BMS from 2004 until 2013; and Steve Holtzman, CEO of hearing loss firm Decibel Therapeutics and former head of corporate development at Biogen. The scientific advisory board also includes some big names, such as Drew Pardoll at Johns Hopkins University of Medicine, the first person to propose blockade of PD-1 for cancer therapy, and Columbia University's Charles Drake, who specializes in immune checkpoints and cancer vaccines.

Cohen-Dayag is clearly all for collaboration and said it can only help the Israeli biotech ecosystem. "I think very highly of the innovation here and I'm very proud of it. I hope that a lot of this innovation will sustain Israel in order to grow and generate value. As an industry, we're trying to make efforts to this will happen on all fronts," she said, noting that there are more venture capital firms now, which means accessing money is less of a problem. Still, "we're trying to build more clinical expertise, industry expertise and managerial expertise," said added.

Her vision is to create value not only for Compugen shareholders, but also for the country as a whole "and to have more workplaces for Israeli employees. If we can lead it, that would be great."

Israel Biotech Fund

Another industry veteran who is confident that Israel can create a sustainable pharma sector is David Sidransky, co-founder and general partner of Israel Biotech Fund. A renowned oncologist, he was vice-chair of ImClone until its acquisition by Eli Lilly for \$6.5bn in 2008 and founded several biotechs, including Oncormed Pharmaceuticals and Response Genetics.

Sidransky moved from the US in 2010 to Israel where he saw lots of "opportunity and some of the limitations." He told *In Vivo* that the biotech sector was strong in terms of numbers of scientists, projects and start-ups, but there was a lack of knowledge "in terms of both realizing how much money it took to get going and how much money you needed to actually make it happen. Companies would start and they wouldn't have enough money to move through the process of drug development."

Another factor is that the main player by far in the Israeli health care sector is [Teva Pharmaceutical Industries Ltd.](#), which is predominately a generics firm. The company has not "quite manage to get themselves on the innovative bandwagon," Sidransky said. "Entrepreneurship coupled with regulatory clinical knowledge needed for innovative new drug candidates" is still missing from the market, he noted. "When we started the fund we realized that, in addition to the people on the ground, we needed a much larger group of experts from industry."

The team of advisors gathered by Sidransky and his colleagues at IBF reads like a who's who in the pharma industry. They include Sol Barer, founder of [Celgene Corp.](#) and chair of Teva; ex-[Pfizer Inc.](#) CEO Jeff Kindler; Bob Spiegel, former chief medical officer at Schering-Plough; and Murray Goldberg, ex-CFO of Regeneron. The 35-strong group of advisors meet once a month.

As investors in the IBF, "they have skin in the game and they commit a tremendous amount of time both evaluating companies, helping devise strategy, recruiting the right people, and importantly, sitting on boards – which is crucial so that we can manage and help the portfolio company," Sidransky said. The fund has a number of success stories on its books including [Ayala Pharmaceuticals](#), which is developing gamma secretase inhibitors licensed from BMS and stem

cell specialist [*Gamida Cell Ltd.*](#), which listed on the Nasdaq in October last year. (Also see "[*Israeli Startup Ayala Taking BMS Cancer Drug Into Phase II With \\$17m Financing*](#)" - Scrip, 10 Apr, 2018.)

"All of our investors are in it for the long run and our vision is that we want to further build the industry in Israel," Sidransky said, noting that quick exits "enrich the first few investors but they don't enrich the ecosystem and we want to grow a very big footprint here." He added that the goal is to develop two or three large innovative companies, creating sustainable jobs for Israelis right across the development pathway.

Ruti Alon, CEO of venture capital fund Medstrada and co-chair of the MIXiii-BIOMED conference noted that as the sector has matured, there are indeed a number of biopharma companies developing drugs in clinical and even late stages in a variety of areas, citing the likes of UroGen Pharma, VBL Therapeutics, Anchiano Therapeutics, Pluristem and BioLineRx. Their advancement is due in part to "the Nasdaq opening its doors to Israeli biotechs and the financial boost that the life science ecosystem received with the addition of new VCs in the healthcare space," with aMoon and the IBF joining firms such as OrbiMed, Pontifax, Arkin Bio Ventures and Clal Biotechnology Industries.

"I believe that this positive momentum can eventually create a sustainable and leading life science industry in Israel," Alon concluded.

Naschitz and Sidransky will be co-chairing, respectively, the AI/Digital Health and Transformative Cancer Therapies tracks at MIXiii-BIOMED, Israel's leading international life science conference and exhibition, taking place on May 14-16 in Tel Aviv.