June 19, 2019

Progenics Pharmaceuticals

Dear Fellow Shareholder,

In its attempt to derail our significant progress and ultimately to gain control of your Board, Velan Capital L.P. ("Velan") now is resorting to issuing false claims and misrepresentations. We are writing to set the record straight.

Our 2019 Annual Meeting of Shareholders is scheduled for July 11, 2019, and we want to ensure you have the correct facts when making significant decisions about the future of your investment in Progenics. We encourage you to protect the value of your investment by voting "FOR" ALL of the Company's director candidates listed on the enclosed WHITE proxy card and to discard any of the materials sent to you by Velan.

ACT TODAY.

Vote the **WHITE** proxy card for all Progenics' highly qualified & experienced director candidates

Below are just a few examples of the misrepresentations and inaccurate statements that Velan has made to support its unsubstantiated case for shareholders to oppose election of your Board.

Myth	FACT
Progenics botched the commercialization of AZEDRA and has made questionable clinical program decisions.	**Progenics has successfully commercialized AZEDRA and made clear and rational clinical program decisions.**

AZEDRA

Because AZEDRA treats an ultra-orphan indication with no other approved therapy and is a radiopharmaceutical administered in a hospital setting, its commercialization process was significantly more complex than that of other therapies without radioactive components. AZEDRA's entire manufacturing, distribution and administration process spans continents, requires close coordination with numerous third parties (including a number of federal, state and provincial regulatory agencies) and the administration process must be completed within 14 days due to the decay of its radioactive ingredient, Iodine-131. In addition, following FDA approval, each treatment center has to complete various nuclear medicine and administrative readiness steps, including ensuring each site has the infrastructure, licensing and training to handle a radiopharmaceutical, as well as ensuring payer reimbursement and pharmacy & therapeutics and radiation safety committee approvals.

Your Board and management team have successfully mastered this extremely complex commercialization process. Indeed, we proudly recorded AZEDRA's first commercial sale in early June of this year.

1095

Your Board has a strong track record of strategic foresight and sound decision-making regarding the Company's clinical program, including with 1095.

For example, in 2013, when the Company acquired AZEDRA, 1404 and 1095, your Board and management recognized the potential value in these out-of-favor assets and purchased them for the deeply discounted price of approximately $10 million. We immediately focused our development efforts on the two later stage drugs, AZEDRA and 1404, because they showed the greatest potential for near-term commercial success, and therefore, to enhance shareholder value. At that time, 1095 was a preclinical drug candidate and was not supported by enough clinical data to make a

compelling business case for its immediate development. After promising clinical data from similar drug candidates became available in 2017, we sharpened our focus on developing 1095. We believe that 1095 has several distinct competitive advantages over its main competitor in the marketplace, PSMA-617, including:

- ✓ Its focus on the pre-chemo market, which is at least two times larger than the post-chemo market of approximately 8,000 patients treated annually according to a June 2016 report from the Decision Resources Group;
- ✓ Its use in combination with the existing standard of care, enzalutamide, with the potential for a synergistic effect, which is supported by pre-clinical data;[1] and
- ✓ Its use of Iodine-131, which is a well-understood isotope with decades of patient experience and a better understood side effect profile than Lutetium.

PyL / PSMA-AI

We also saw value where others did not in PyL, which Johns Hopkins licensed to us at no upfront cost. We believe the value of PyL will only be enhanced by our strategic investment in PSMA-AI, which data suggests can analyze imaging results with higher accuracy, reproducibility and speed and which prominent oncologists and urologists viewed as opinion leaders in their fields believe will become an integral diagnostic tool in clinical practice. Our initial AI platform was obtained with a modest investment of approximately $8 million and AI is already a breakeven business for us. As we move PyL into commercialization, our AI will be a key differentiator for PyL, driving PyL sales, and we expect our AI algorithms to help extend exclusivity for PyL.

Your Board believes the current value of these assets greatly exceeds the Company's initial investments.

Myth	FACT
The Progenics Board and management team lack financial discipline.	**Progenics makes prudent financial decisions that have resulted in lower SG&A expenses than industry peers.**

Your management team, under the Board's direction and oversight, works diligently and continuously to maintain an efficient cost structure while successfully executing our strategy. This has resulted in a lower cumulative annual growth rate for operating expense than our industry peers over the past three and five years.[2] We have successfully maintained this efficient cost structure even while commercializing our first product (AZEDRA), which is normally a time when selling, general and administrative expenses for companies like ours increase significantly.

1. Reference: Radio potentiation of Enzalutamide over Human Prostate Cancer Cells as Assessed by Real-Time Cell Monitoring. Dr. David Escors, Dr. Grazyna Kochan, Dr. Fernando Arias. Published May 17, 2018.
2. Industry peer group includes all domestically listed biopharma oncology companies as of 6/17/2019 that had a market capitalization within a $100 million range of Progenics' 6/17/2019 market capitalization of $370 million.

Contrary to Velan's claims, our financial prudence also extends to our Board and executive compensation. Over the past five years, our directors as a group received a total of $6.2 million in compensation, below the average of $6.4 million received by the nonexecutive directors of our industry peers over the same timeframe.[3] Likewise, our CEO's compensation falls well below industry peers as a percentage of market capitalization over the past one, three and five years.

Our relocation to the World Trade Center also made good financial sense. This move permitted us to lower our facility costs by approximately 50 percent in 2016 due to favorable lease terms and tax benefits as a biotech company relocating to the site of the 9/11 terrorist attack, as well as provided multiple strategic benefits.

We understand and are sensitive with regard to the dilution associated with the issuance of our stock to make milestone payments, particularly as we expect to achieve meaningful, value-enhancing milestones in the future. We also know that it is important that we be well-funded and maintain a strong cash position to launch AZEDRA, make continued investments in our pipeline assets and avoid the downward pressure that can be put on the stock from a real or perceived "financing overhang". As you have seen, our corporate finance strategy is to explore all possible financing opportunities, including non-dilutive monetizations like we executed for RELISTOR. Our decision to satisfy the AZEDRA launch milestone in stock versus cash is based upon this rationale, to balance the dilution associated with issuing stock with the desire to maintain a strong cash position.

Myth	FACT
The Progenics Board is unqualified and lacks "skin in the game".	**Your Board has the necessary experience to lead the Company to success and its interests are fully aligned with shareholders.**

Your Board has the right mix of skills and expertise to successfully develop and commercialize our products and product candidates, and guide the Company to long-term success. A majority of your Board includes current or former chief executives and directors of other world-class public pharmaceutical companies, with significant experience in commercial-stage oncology products. For example, Michael Kishbauch established Novartis' Oncology Field Force, helping to launch its first product, Aredia (pamidronate), and paving the way for this commercial organization to launch numerous notable oncology products.

Our interests are fully aligned with yours.

We grant stock compensation to directors in the form of stock options, which provide a direct beneficial ownership in the Company's performance. Options are a common form of beneficial ownership for biotech companies and, among our industry peers, approximately 80 percent of

3. Peer group as defined in note 2. Compensation excludes any industry peers that have not been reporting Director compensation for the past 5 years or are foreign reporters not required to file a DEF14A.

the beneficial ownership held by non-executive directors (excluding founders) in their respective companies is in the form of options similar to those held by your Board of Directors.[4]

Velan's assertion that our Board and executives lack "skin in the game" is simply false. Our nonexecutive directors hold a beneficial ownership in the Company equivalent to 1.4 percent of outstanding shares. This compares with a median beneficial ownership of 0.6 percent of outstanding shares among our industry peers. Our management team holds a beneficial ownership in the Company equivalent to 3.0 percent of outstanding shares, compared to a median beneficial ownership of 2.4 percent of outstanding shares held by the management teams of our industry peers.[5] Our directors and management team thus have a major financial (and professional) stake in Progenics' long-term success, just as our fellow shareholders do.

Myth	FACT
The Progenics Board invalidated Velan's nominations on a technicality.	**Your board is committed to good corporate governance and has earned the best quality score; Velan's nominations did not comply with the company's bylaws which are designed to protect the interests of all shareholders.**

Velan has claimed that its disqualifying failure to comply with our Company's advance notice bylaw is a "technicality." In fact, following bylaws is not a "technicality" – Boards are required to uphold them to protect the Company's interests and that of their shareholders. Velan has admitted it did not meet the record holder requirement of our advance notice bylaw that must be met in order to make timely and valid director nominations even though it knew this requirement existed well before the nomination deadline. Despite this, our Nominating & Corporate Governance Committee proceeded to interview Velan's candidates to see whether they would be additive and complementary to the Board at this important juncture in Progenics' growth story. We did this in an effort to reach a compromise with Velan.

We are committed to best-in-class corporate governance policies and take great pride in holding ourselves accountable to you, our shareholders, who can call for change at any time. In recent years, we have made several bylaw amendments in response to your feedback, including decreasing the threshold for shareholders to call a special meeting and adopting proxy access. These changes have resulted in Progenics receiving the highest Corporate Governance QualityScore from Institutional Shareholder Services, a leading proxy advisory firm, a score it has maintained since 2017.

4. Peer group as defined in note 2. Note option ownership as a percentage of shares owned is calculated based on each company's non-executive and non-founding directors.

5. Beneficial ownership defined as common stock plus options / indirect securities. Peer group as defined in note 2. Management team includes Mark Baker, Patrick Fabbio, Vivien Wong, Asha Das, Bryce Tenbarge, and Benedict Osorio.

Myth	FACT
Velan has been reasonable in potential settlement negotiations.	**Despite repeated efforts (including an offer to allow Velan to designate two directors), Velan has been unwilling to negotiate in good faith to reach a mutually acceptable compromise.**

Velan complains that the Company did not seriously evaluate its proffered slate of Board candidates. This is again untrue. Each was carefully interviewed and evaluated over many hours. The truth is that Velan's candidates lack the unique backgrounds in radiopharmaceutical commercialization and supply chain management that your Company needs at this critical time in its corporate life and phase of growth. Several of Velan's candidates are private equity investors with no direct operational experience in our industry whatsoever. Meanwhile, the subset of Velan candidates who had relevant experience also had track records in the industry marred by questionable past business practices, such as reported price-gouging and illegal kickbacks.

Velan has not disputed these reports of unlawful business practices, yet somehow claims we dismissed its candidates in bad faith. How could any board in good faith not place significant weight on these reports in considering a potential director's candidacy? Based on our decades of experience in the industry, and taking into account recent criticism of pharmaceutical companies by national politicians, we strongly believe that any association with these questionable practices would be concerning to physicians, patients and payers. We also strongly believe they potentially could be used against our Company in the court of public opinion, undoing our positive work to establish fair pricing for AZEDRA and ultimately harming our business. Velan's candidates are also linked and interconnected through a web of past experiences, calling into serious question their independence, objectivity and alignment with the long-term interests of the Company and of stockholders other than Velan. This is why the Board made a reasoned and deliberate determination to not add any of Velan's candidates as directors.

We proposed, and continue to propose, constructive compromises to avoid this disruptive and expensive proxy contest. Velan, however, has repeatedly rebuffed our efforts to reach a mutually agreeable settlement. Our latest offer, for example, would have allowed Velan to designate to the Board, two new, mutually agreeable independent directors with radiopharmaceutical commercialization and supply chain management experience so long as they did not have any past associations with price-gouging or other activities that would raise serious environmental, social and governance ("ESG") concerns. Our latest offer also included that these new directors would each be eligible to serve on one committee, either Nominating and Corporate Governance or Compensation,

and would also be re-nominated at the 2020 Annual Meeting. In return for these reasonable settlement terms, we only asked in return for customary standstill and voting commitments through next year's annual meeting. We believe that our latest offer balances our legitimate concern over Velan's candidates' past questionable business practices with its ability as a sizable shareholder to give valuable input into the composition of the Board.

To date, Velan refuses to entertain any discussions of settlement that would not result in its candidates with histories of reported price-gouging joining the Board. Your Board cannot countenance a settlement on Velan's terms based on valid ESG concerns. We strongly believe they are widely shared by our shareholders, business partners, patients, politicians, physicians, payers and other key constituencies in our ecosystem with whom we have forged strong relationships over the course of many years. By categorically refusing to listen to our concerns and to work with us to find a path forward that allays them, we believe it is Velan that has engaged on the topic of settlement in bad faith.

We urge you to not be distracted by the steady drumbeat of false claims and promoted misconceptions made by Velan in what we believe to be an attempt to disrupt the positive, shareholder wealth creating strategy your Board and management has developed and is executing upon.

This is a critical moment in your Company's history. We strongly believe that we have the right Board with the right experience and the right strategy to lead Progenics to success.

We hope we can count on your support and encourage you to vote on the **WHITE** proxy card and **"FOR"** all Progenics' nominees at the upcoming 2019 Annual Meeting.

Sincerely,

The Progenics Board of Directors

VOTE THE ENCLOSED WHITE PROXY CARD "FOR" ALL OF PROGENICS' QUALIFIED DIRECTOR NOMINEES

If you have any questions about how to vote your shares or need additional assistance, please contact:

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About PROGENICS

Progenics is an oncology company focused on the development and commercialization of innovative targeted medicines and artificial intelligence to find, fight and follow cancer, including: therapeutic agents designed to treat cancer (AZEDRA®, 1095, and PSMA TTC); prostate-specific membrane antigen ("PSMA") targeted imaging agents for prostate cancer (PyL™ and 1404); and imaging analysis technology (aBSI and PSMA AI). Progenics has two commercial products, AZEDRA, for the treatment of patients with unresectable, locally advanced or metastatic pheochromocytoma or paraganglioma (rare neuroendocrine tumors of neural crest origin) who require systemic anticancer therapy; and RELISTOR® (methylnaltrexone bromide) for the treatment of opioid-induced constipation, which is partnered with Bausch Health Companies Inc.

Forward Looking Statements

This letter contains projections and other "forward-looking statements" regarding future events. Statements contained in this communication that refer to Progenics' estimated or anticipated future results or other non-historical facts are forward-looking statements that reflect Progenics' current perspective of existing trends and information as of the date of this communication and include statements regarding Progenics' strategic and operational plans and delivering value for shareholders. Forward looking statements generally will be accompanied by words such as "anticipate," "believe," "plan," "could," "should," "estimate," "expect," "forecast," "outlook," "guidance," "intend," "may," "might," "will," "possible," "potential," "predict," "project," or other similar words, phrases or expressions. Such statements are predictions only, and are subject to risks and uncertainties that could cause actual events or results to differ materially. These risks and uncertainties include, among others, the costs and management distraction attendant to a proxy contest; market acceptance for approved products; the risk that the commercial launch of AZEDRA may not meet revenue and income expectations; the cost, timing and unpredictability of results of clinical trials and other development activities and collaborations; the unpredictability of the duration and results of regulatory review of New Drug Applications (NDA) and Investigational NDAs; the inherent uncertainty of outcomes in the intellectual property disputes such as the dispute with the University of Heidelberg regarding PSMA-617; our ability to successfully develop and commercialize products that incorporate licensed intellectual property; the effectiveness of the efforts of our partners to market and sell products on which we collaborate and the royalty revenue generated thereby; generic and other competition; the possible impairment of, inability to obtain and costs of obtaining intellectual property rights; possible product safety or efficacy concerns, general business, financial, regulatory and accounting matters, litigation and other risks. More information concerning Progenics and such risks and uncertainties is available on its website, and in its press releases and reports it files with the Securities and Exchange Commission (the "SEC"), including those risk factors included in its Annual Report on Form 10-K for the year ended December 31, 2018, as updated in its subsequent Quarterly Reports on Form 10-Q. Progenics is providing the information in this letter as of its date and, except as expressly required by law, Progenics disclaims any intent or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or circumstances or otherwise.

Additional information concerning Progenics and its business may be available in press releases or other public announcements and public filings made after this letter. For more information, please visit www.progenics.com. Information on or accessed through our website or social media sites is not included in the company's SEC filings.

Important Additional Information and Where to Find It

Progenics has filed a definitive proxy statement and accompanying **WHITE** proxy card with the SEC in connection with the solicitation of proxies for its 2019 Annual Meeting of Shareholders. **Progenics' shareholders are strongly encouraged to read the definitive proxy statement (including any amendments or supplements thereto) and the accompanying WHITE proxy card because they contain important information.** Shareholders may obtain copies of Progenics' 2019 proxy statement, any amendments or supplements to the proxy statement, and other documents filed by Progenics with the SEC in connection with its 2019 Annual Meeting of Shareholders when they become available and for no charge at the SEC's website at www.sec.gov. Copies will also be available for no charge in the Investors section of Progenics' website at www.progenics.com.

Certain Information Regarding Participants

Progenics, its directors, executive officers and certain employees may be deemed participants in the solicitation of proxies from shareholders in connection with Progenics' 2019 Annual Meeting of Shareholders. Information regarding these participants, including their respective direct or indirect interests by security holdings or otherwise, is set forth in the definitive proxy statement for Progenics' 2019 Annual Meeting of Shareholders, which can be obtained free of charge from the sources indicated above.