Filed Pursuant to Rule 424(b)(3)
Registration No. 333-267619

Prospectus Supplement No. 6
(To Prospectus dated October 5, 2022)

GREENLIGHT BIOSCIENCES HOLDINGS, PBC

114,692,259 Shares of Common Stock
10,350,000 Shares of Common Stock Issuable Upon Exercise of Warrants

This prospectus supplement no. 6 (this "Prospectus Supplement") amends and supplements the prospectus dated October 5, 2022 (as amended or supplemented from time to time, the "Prospectus"), relating to the offering and resale by the selling stockholders of up to 114,692,259 shares of our common stock, par value $0.0001 per share (the "Common Stock"), and the issuance by us of up to 10,350,000 shares of Common Stock upon the exercise of outstanding warrants.

This Prospectus Supplement amends and supplements the Prospectus with the information contained in our attached current report on Form 8-K, which was filed with the Securities and Exchange Commission on March 9, 2023.

This Prospectus Supplement is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. This Prospectus Supplement should be read in conjunction with the Prospectus and any amendments or supplements thereto. If there is any inconsistency between the information in the Prospectus and this Prospectus Supplement, you should rely on the information in this Prospectus Supplement.

Our Common Stock is listed on The Nasdaq Global Market ("Nasdaq") under the symbol "GRNA" and our Public Warrants (as defined in the Prospectus) are listed on Nasdaq under the symbol "GRNAW". On March 8, 2023, the closing sale price of our Common Stock as reported on Nasdaq was $0.44 per share, and the closing sale price of our Public Warrants as reported on Nasdaq was $0.06 per warrant.

Investing in our securities involves a high degree of risk. Before buying any securities, you should carefully read the discussion of the risks of investing in our securities in "Risk Factors" beginning on page 11 of the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under the Prospectus or passed upon the accuracy or adequacy of the Prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus Supplement is March 9, 2023.

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 8-K

CURRENT REPORT

Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): March 09, 2023

GreenLight Biosciences Holdings, PBC

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-39894**	**85-1914700**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
200 Boston Avenue Suite 3100 Medford, Massachusetts		**02155**
(Address of Principal Executive Offices)		**(Zip Code)**

Registrant's Telephone Number, Including Area Code: (617) 616-8188

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value $0.0001 per share	GRNA	The Nasdaq Stock Market LLC
Warrants, each exercisable for one share of Common Stock for $11.50 per share	GRNAW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☒

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 7.01 Regulation FD Disclosure

On March 9, 2023, GreenLight Biosciences Holdings, PBC (the "Company" or "GreenLight") issued a press release entitled "GreenLight Biosciences Outlines Development Strategy and Highlights Portfolio Updates at Human Health R&D Day." The Company will present business updates on a webcast on March 9, 2023 at 10:30 a.m. ET. A copy of the press release is attached as Exhibit 99.1 to this Current Report on Form 8-K and the presentation can be found on the Company's website at https://investors.greenlightbio.com/events-presentations/presentations.

The information in this Item 7.01, including Exhibit 99.1 to this Current Report on Form 8-K, the presentation referenced above and the other content on our website, shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, except as expressly set forth by specific reference in such a filing.

Item 8.01 Other Events

On March 9, 2023, the Company is hosting a research and development day to outline its pipeline strategy and R&D progress for its mRNA-based solutions. The company previously hosted a research and development day outlining its strategy for its agricultural solutions on March 7, 2023.

GreenLight today is sharing the key pillars of its human health strategy:

- Developing vaccines for infectious diseases, especially those addressing unmet medical needs in lower- and middle- income countries. Consistent with its public benefit corporation status, Greenlight is striving to support global, sustainable vaccine access and pandemic response readiness.
- Developing innovative products to address unmet medical needs in oncology and autoimmune diseases. This work has begun with the collaboration with EpiVax Therapeutics to co-develop personalized cancer vaccines.
- Continued advancement of GreenLight's mRNA technology platform through innovations and to seek potential partnerships withpharmaceutical and biotechnology companies.

As previously announced, GreenLight received approval from the Rwanda Food and Drugs Authority (Rwanda FDA) to initiate a Phase I/II study of its GLB-COV2-043 vaccine booster candidate. However, given the global shift in the standard of care for COVID-19 vaccination to the Wuhan/Omicron bivalent vaccine and new availability of the bivalent vaccine in Rwanda, GreenLight is proceeding with its pan-sarbecovirus vaccine candidate instead of the GLB-COV2-043 (monovalent) vaccine candidate as originally planned. GreenLight is accelerating the development of its pan-sarbecovirus vaccine candidate, which is designed to provide broader coverage against current circulating and future emerging variants of SARS-CoV-2 and support future pandemic preparedness and is planning a follow-up filing on this candidate to the Rwanda FDA and the Rwanda National Ethics Committee (RNEC). GreenLight will be working expeditiously and closely with its Rwandan partners to advance these efforts over the coming months and is also starting conversations with potential partners in other countries that have expressed interest in supporting the development and clinical path for a broader pan-sarbecovirus vaccine. GreenLight Biosciences has completed the design and in vitro selection of the pan-sarbecovirus vaccine candidates and is currently evaluating them in animal studies for subsequent progression to clinical development subject to those study results.

Regarding its Shingles program, GreenLight is excited to share new pre-clinical data. GreenLight has selected a lead candidate to progress towards clinical development after evaluation of multiple antigen designs and formulations in animal studies. Based on immunological response evaluations in pre-clinical studies:

- All mRNA-LNP vaccine candidates tested were highly immunogenic and induced high levels of antigen-specific binding antibodies and strong cellular (T cell) responses:
    - Lead vaccine candidate induced antibody levels similar to comparator vaccine (current standard of care)
    - Lead vaccine candidate was more potent than comparator vaccine at inducing strong cellular immune response
- Lead vaccine candidates maintained memory B and T cells responses at levels similar to comparator vaccine, 3 months after vaccine candidate administration, demonstrating durability of the immune response.

Serum Institute of India Private Limited will be responsible for the clinical development, manufacturing, and commercialization of the vaccine candidate in lower- and middle- income countries under its license agreement with GreenLight Biosciences. GreenLight retains the clinical development, manufacturing, and commercial rights in the developed world.

Forward-Looking Statements

Certain statements in this Current Report on Form 8-K may constitute "forward-looking statements" for purposes of the federal securities laws. Our forward-looking statements include, but are not limited to, statements regarding our or our management team's expectations, hopes, beliefs, intentions or strategies regarding the future, including those relating to the success, cost and timing of our research and development activities in our plant and human health programs, the timing of regulatory submissions and approvals, our ability to progress our candidates into the clinic, if at all, the timing to commence future clinical trials, our ability to commercialize our products, the acceptance of RNA-based technologies by regulators and the public, our ability to raise and productively deploy capital and the rate at which we can successfully bring products to market, our projected cash runway and our ability to obtain funding for our operations when needed. Forward-looking statements include statements relating to our management team's expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "intends," "may," "might," "plan," "possible," "potential," "predict," "project," "should," "will," "would" and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. These forward-looking statements are based on current expectations and beliefs concerning future developments and their potential effects. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described under the heading "Risk Factors" in the Company's most recent Annual Report on Form 10-K filed with the SEC, as well as discussions of potential risks, uncertainties, and other important factors included in our Quarterly Reports on Form 10-Q, periodic filings on Form 8-K, and any of our future filings with the SEC. Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. Some of these risks and uncertainties may in the future be amplified by current macroeconomic conditions and the ongoing COVID-19 pandemic and there may be additional risks that we consider immaterial, or which are unknown. It is not possible to predict or identify all such risks. Our forward-looking statements only speak as of the date they are made, and we do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required under applicable securities laws.

Item 9.01 Financial Statements and Exhibits

(d) Exhibits

Exhibit No.	Description
99.1	Press Release issued by GreenLight Biosciences Holdings, PBC on March 9, 2023
104	Cover Page Interactive Date File (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

GREENLIGHT BIOSCIENCES HOLDINGS, PBC

Date: March 9, 2023

By: /s/ David Kennedy
David Kennedy
General Counsel