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 11, 2024

SONNET BIOTHERAPEUTICS HOLDINGS, INC.
(Exact name of registrant as specified in its charter)

Delaware	**001-35570**	**20-2932652**
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

100 Overlook Center, Suite 102 Princeton, New Jersey	**08540**
(Address of principal executive offices)	(Zip Code)

Registrant's telephone number, including area code: **(609) 375-2227**

Not Applicable
(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 (see General Instruction A.2. below):

☐ 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, $0.0001 par value per share	SONN	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 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2).

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.

On March 11, 2024, Sonnet BioTherapeutics Holdings, Inc. (the "Company") issued a press release announcing that the first Phase 1b/2a clinical trial of SON-080 was cleared to proceed to Phase 2 after review by the independent Data and Safety Monitoring Board (DSMB). A copy of the press release is attached hereto as Exhibit 99.1.

The information in this Current Report on Form 8-K under Item 7.01, including the information contained in Exhibit 99.1, is being furnished to the Securities and Exchange Commission, and shall not be deemed to be "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, and shall not be deemed to be incorporated by reference into any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by a specific reference in such filing.

Item 8.01. Other Events.

On March 11, 2024, the Company announced that the first Phase 1b/2a clinical trial of SON-080 was cleared to proceed to Phase 2 after review by the DSMB. This study (SB211, NCT05435742) is being conducted at two sites in Australia in patients with persistent chemotherapy-induced peripheral neuropathy (CIPN) using a new proprietary version of recombinant human Interleukin-6 (rhIL-6), which required confirmation of safety before continued development in Phase 2. Many drugs cause peripheral nerve damage; patients with CIPN experience discomfort that can result in persistent, unbearable pain that may limit chemo-therapeutic treatment.

SB211 is studying a low dose of rhIL-6 that has an amino acid sequence identical to the native molecule. The trial targets serum levels similar to those induced with moderate exercise, which triggers the natural healing of nerves, muscle, and bone. As a pleiotropic cytokine, native IL-6 participates in several physiological processes, including tissue

repair, glucose homeostasis, and the innate immune response at lower levels, but it can result in acute pathological inflammation at higher serum levels. Preclinical models of CIPN and diabetic peripheral neuropathy show that low dose rhIL-6 has the potential to stimulate nerve regrowth to re-establish normal sensations, thereby reducing pain and normalizing some of the physiological conditions that had deteriorated due to nerve degeneration. Early versions of rhIL-6, including Serono's atexakin alfa and others, have been tested in hundreds of patients with cancer, diabetes, idiopathic aplastic anemia, or in healthy controls, showing a maximum tolerated dose of 10 µg/kg three times a week (TIW). However, fever, nausea, and vomiting were prominent at doses over 2 µg/kg TIW. SB211 was designed in Phase 1b to show safety using lower doses in CIPN with up to about 1 µg/kg of the Company's new version of IL-6 (SON-080) given subcutaneously TIW for twelve weeks.

The protocol required DSMB to review the unblinded safety and tolerability of SON-080 in the first nine patients in SB211. While the data is still blinded to the rest of the team and we do not have access to the responses by group, the initial safety profile mimics that seen in prior studies with lower doses of exogenous rhIL-6. The most prominent symptoms in SB211 included injection site reactions (redness, bruising, pain, or itching) that resolved within a few days, as well as fatigue, body aches, or nausea that were mostly mild with some symptoms that were moderate. One patient developed severe fatigue and withdrew from the study after one month. All adverse events were transient and reversible. The DSMB concluded that the symptoms were tolerable in the initial patients and the study could proceed to Phase 2. The unblinded safety data from two dose levels of SON-080 compared to placebo are expected during the second half of 2024.

Item 9.01. Financial Statements and Exhibits.

(d) The following exhibit is furnished with this report:

Exhibit No.	Description
99.1	Press Release issued by Sonnet BioTherapeutics Holdings, Inc., dated March 11, 2024.
104	Cover Page Interactive Data 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.

SONNET BIOTHERAPEUTICS HOLDINGS, INC.

Date: March 11, 2024

By: */s/ Pankaj Mohan, Ph.D.*
Name: Pankaj Mohan, Ph.D.
Title: Chief Executive Officer

Exhibit 99.1

Sonnet BioTherapeutics Announces Early Safety Data from the Company's Phase 1b/2a Clinical Trial of SON-080 in Chemotherapy-Induced Peripheral Neuropathy (CIPN) Met the Study's Initial Pre-Specified Objective

- Safety in the Phase 1b part of Sonnet's double-blind, randomized, controlled trial of SON-080 was reviewed by the study's Data Safety Monitoring Board (DSMB)
- The adverse event profile and tolerability of SON-080 was consistent with data from previous IL-6 candidates, meeting the Phase 1b safety objective
- Sonnet will leverage this safety data to support initiation of a Phase 2 clinical trial in Diabetic Peripheral Neuropathy (DPN), a much larger indication, after a potential partnership is put in place

PRINCETON, NJ / ACCESSWIRE / March 11, 2024 / Sonnet BioTherapeutics Holdings, Inc. ("Sonnet" or the "Company") (NASDAQ:SONN), a clinical-stage company developing targeted immunotherapeutic drugs, announced today that the first Phase 1b/2a clinical trial of SON-080 was cleared to proceed to Phase 2 after review by the independent DSMB. This study (SB211, NCT05435742) is being conducted at two sites in Australia in patients with persistent CIPN using a new proprietary version of recombinant human Interleukin-6 (rhIL-6), which required confirmation of safety before continued development in Phase 2. Many drugs cause peripheral nerve damage; patients with CIPN experience discomfort that can result in persistent, unbearable pain that may limit chemotherapeutic treatment.

SB211 is studying a low dose of rhIL-6 that has an amino acid sequence identical to the native molecule. The trial targets serum levels similar to those induced with moderate exercise, which triggers the natural healing of nerves, muscle, and bone. As a pleiotropic cytokine, native IL-6 participates in several physiological processes, including tissue repair, glucose homeostasis, and the innate immune response at lower levels, but it can result in acute pathological inflammation at higher serum levels. Preclinical models of CIPN and DPN show that low dose rhIL-6 has the potential to stimulate nerve regrowth to re-establish normal sensations, thereby reducing pain and normalizing some of the physiological conditions that had deteriorated due to nerve degeneration. Early versions of rhIL-6, including Serono's atexakin alfa and others, have been tested in hundreds of patients with cancer, diabetes, idiopathic aplastic anemia, or in healthy controls, showing a maximum tolerated dose of 10 µg/kg three times a week (TIW). However, fever, nausea, and vomiting were prominent at doses over 2 µg/kg TIW. Study SB211 was designed in Phase 1b to show safety using lower doses in CIPN with up to about 1 µg/kg of Sonnet's new version of IL-6 (SON-080) given subcutaneously TIW for twelve weeks.

The protocol required DSMB to review the unblinded safety and tolerability of SON-080 in the first nine patients in SB211. While the data is still blinded to the rest of the team and we do not have access to the responses by group, the initial safety profile mimics that seen in prior studies with lower doses of exogenous rhIL-6. The most prominent symptoms in SB211 included injection site reactions (redness, bruising, pain, or itching) that resolved within a few days, as well as fatigue, body aches, or nausea that were mostly mild with some symptoms that were moderate. One patient developed severe fatigue and withdrew from the study after one month. All adverse events were transient and reversible. The DSMB concluded that the symptoms were tolerable in the initial patients and the study could proceed to Phase 2. The unblinded safety data from two dose levels of SON-080 compared to placebo are expected during the second half of 2024.

"Completion of the Phase 1b portion of SB211 is an important milestone for Sonnet in the Company's quest to bring a potentially groundbreaking treatment forward for peripheral neuropathies, where there's a large unmet need," said Pankaj Mohan, Ph.D., Sonnet Founder and Chief Executive Officer. "This trial was designed to initially bridge the large atexakin alfa historical safety database in cancer patients and then to study the neuroprotective and neuro-regenerative effects of SON-080 in Phase 2 in a neurotherapy indication. Owing to the larger market opportunity of the DPN indication, we have received greater potential partnering interest in this indication." Dr. Mohan further added, "The inhibition of IL-6 release in diabetic patients, even after moderate exercise, suggests there is tremendous disease modifying potential for the application of rhIL-6 in DPN. Given the high prevalence of neuropathy in diabetes and the commensurate industry interest in this market, we have prioritized DPN as the best potential indication for Phase 2 development. We have initiated a partnering process to move the asset forward towards commercialization."

"Interleukin-6 has been extensively studied in cancer patients in the past, so the use of SON-080 in CIPN was expected to provide a similar adverse event profile at low doses," said Richard Kenney, M.D., Sonnet's Chief Medical Officer. "The preclinical models showing improvements in nerve function and histology suggest possible benefits in humans with various types of peripheral neuropathy due to cancer and diabetes. This approach is a unique way to actually treat the underlying causes of peripheral neuropathy with rhIL-6, rather than trying to mask the symptoms. Further, given the business priorities, SB211 CIPN development will be placed on hold and the data will be leveraged to initiate a Phase 2 study in the much larger DPN indication."

About the SB211 Phase 1b/2a Trial

The SB211 study is primarily designed to evaluate the safety, PK, PD, and initial efficacy of two dose levels of SON-080 compared to placebo. The drug is self-administered three times a week, subcutaneously, in patients with CIPN lasting at least 3 months after chemotherapy. The study is being conducted at multiple sites in Australia, in a blinded fashion, comparing SON-080 to placebo. The primary endpoint explores the safety and tolerability of SON-080, with key secondary endpoints intended to measure PK, PD, and immunogenicity. Preliminary efficacy is being explored using standardized pain questionnaires over the course of the trial.

About Sonnet BioTherapeutics Holdings, Inc.

Sonnet BioTherapeutics is an oncology-focused biotechnology company with a proprietary platform for innovating biologic drugs of single or bifunctional action. Known as F_HAB (Fully Human Albumin Binding), the technology utilizes a fully human single chain antibody fragment (scFv) that binds to and "hitch-hikes" on human serum albumin (HSA) for transport to target tissues. Sonnet's F_HAB was designed to specifically target tumor and lymphatic tissue, with an improved therapeutic window for optimizing the safety and efficacy of immune modulating biologic drugs. F_HAB is the foundation of a modular, plug-and-play construct for potentiating a range of large molecule therapeutic classes, including cytokines, peptides, antibodies, and vaccines.

Forward-Looking Statements

This press release contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section21E of the Securities Exchange Act of 1934 and Private Securities Litigation Reform Act, as amended, including those relating to the Company's cash runway, the Company's product development, clinical and regulatory timelines, market opportunity, competitive position, possible or assumed future results of operations, business strategies, potential growth opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions.

These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "intend," "plan," "believe," "estimate," "potential, "predict," "project," "should," "would" and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's filings with the Securities and Exchange Commission. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this press release. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or

otherwise.

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SOURCE: Sonnet BioTherapeutics Holdings, Inc.