

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): April 7, 2014

LION BIOTECHNOLOGIES, INC.
(Exact Name of Registrant as Specified in Charter)

Nevada

(State or other jurisdiction of
incorporation or organization)

75-3254381

(I.R.S. employer
identification number)

21900 Burbank Blvd, Third Floor, Woodland Hills, CA 91367

(Address of principal executive offices and zip code)

(818) 992-3126

(Registrant's telephone number, including area code)

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)).
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Item 8.01. Other Events.

On April 7, 2014, Lion Biotechnologies, Inc., a Nevada corporation (the “Company”), issued a press release announcing that Steven A. Rosenberg, M.D., Ph.D., Chief of Surgery at the National Cancer Institute, presented data regarding the clinical efficacy of a Phase 2 melanoma clinical trial in a plenary session at the 105th Annual Meeting of the American Association for Cancer Research. A copy of the press release is filed as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated by reference into this Item 8.01.

Item 9.01. Financial Statements and Exhibits.

99.1 Press Release of Lion Biotechnologies, Inc., dated April 7, 2014.

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.

LION BIOTECHNOLOGIES, INC.

Date: April 7, 2014

By: /s/ Michael Handelman
Michael Handelman, Chief Financial Officer

Lion Biotechnologies' Lead Program With National Cancer Institute Demonstrates Positive Results in Patients With Stage 4 Metastatic Melanoma

Novel Immunotherapy Can Produce Durable Tumor Responses in Checkpoint Inhibitor Refractory Patients

LOS ANGELES, April 7, 2014 -- Lion Biotechnologies, Inc. (**L BIO**), a biotechnology company that is developing novel cancer immunotherapies based on tumor infiltrating lymphocytes (TILs), today announced that Steven A. Rosenberg, M.D., Ph.D., Chief of Surgery at the National Cancer Institute (NCI), has presented data showing impressive evidence of clinical efficacy from a Phase 2 melanoma clinical trial in a plenary session at the 105th Annual Meeting of the American Association for Cancer Research. The new data confirmed that TIL treatment was associated with a high durable objective response rate in patients with Stage 4 metastatic melanoma, including many who were refractory to checkpoint inhibitors. Lion is working with Dr. Rosenberg under a Cooperative Research and Development Agreement (CRADA) to develop and commercialize this novel TIL therapy.

Confirming findings from prior Phase 2 studies of TILs, the new data indicate an overall objective response rate (ORR) of 54% in 101 patients, which represents a significant improvement over recent clinical data from ipilimumab, marketed as Yervoy (ORR 10-15%), and anti-PD-1 therapy (ORR 31-41%) in Stage 4 metastatic melanoma patients. In addition, TILs produced clinically meaningful objective response rates in 19/45 (ORR 42%) patients who were ipilimumab refractory, and 5/10 (ORR 50%) patients who had previously progressed on anti-PD1. Four patients with prior checkpoint failures had complete responses and continue to be disease free.

Commenting on Dr. Rosenberg's presentation, Jeffrey S. Weber, M.D., Ph.D., director of the Donald A. Adam Comprehensive Melanoma Research Center at Moffitt Cancer Center and member of Lion's Scientific Advisory Board, stated, "These findings underscore the potential of TILs to significantly improve survival and tumor response in patients with advanced metastatic melanoma, either alone or in combination with other immunotherapeutic agents.

"Checkpoint inhibitors are quickly becoming the standard of care for metastatic melanoma, but 50 to 60% percent of patients do not benefit from these agents. We are therefore very encouraged by the high response rates we see with TILs in patients who are refractory to these therapies, and who have few, if any, other treatment options. These impressive data also suggest that further benefit may occur when TILs are combined with checkpoint protein inhibitors."

The randomized, Phase 2 clinical trial was conducted at NCI in a total of 101 patients with advanced metastatic melanoma, who were equally divided between two treatment groups. Both groups were treated according to standard TIL protocol using chemoablation, but the second group also received total body irradiation.

At the time of analysis, 11 of 101 patients from both groups had achieved complete response and 44 had achieved partial response, indicating a combined ORR of 54%. Differences between the two treatment groups will be calculable only after all patients have been evaluated later this year.

Manish Singh, PhD, Lion's chairman and chief executive officer, commented, "The outcome of our study with NCI represents an exciting development, first and foremost for patients, but also for our company and the groundbreaking technology on which it is based. In recent years, TILs, chimeric antigen receptors and other forms of adoptive cell transfer therapy have proved capable of shifting the cancer treatment paradigm away from delaying progression, and towards a cure. We look forward to further investigating TIL therapy in metastatic melanoma, while enhancing the underlying technology and exploring its potential in other solid tumor indications."

About TIL therapy

In the early stages of cancer, special immune cells known as tumor infiltrating lymphocytes (TILs) migrate to the tumor and launch an attack. However, this effect is usually short-lived because cancer adapts to evade immune detection and suppress immune response. Lion's TIL technology is designed to overcome the immunosuppressive effects of cancer, while leveraging and enhancing the power of TILs to treat, and potentially cure, all solid tumors.

Lion's TIL technology has demonstrated robust efficacy in Phase 2 clinical trials, indicating objective response rates of 49% in Stage 4 metastatic melanoma. Based on an adoptive cell therapy regimen developed by Steven A. Rosenberg, MD, chief of surgery at National Cancer Institute (NCI), it is currently in use as a physician-sponsored investigational treatment for Stage IV metastatic melanoma at NCI, MD Anderson Cancer Center, and the H. Lee Moffitt Cancer & Research Institute.

About Lion Biotechnologies

Lion Biotechnologies, Inc. is engaged in the development of T-cells and engineered T-cells for the treatment of various cancers. The company's lead product candidate is a ready-to-infuse autologous T-cell therapy utilizing tumor-infiltrating lymphocytes (TILs) for the treatment of patients with Stage IV metastatic melanoma, and is based on a clinical CRADA with the National Cancer Institute along with physician-sponsored investigational therapy at the MD Anderson Cancer Center and the H. Lee Moffitt Cancer & Research Institute. For more information, please visit <http://www.lionbio.com>.

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