

miRagen Therapeutics Announces Presentation of MRG-106 Clinical Data at American Society of Hematology Annual Meeting



- Initial data on MRG-106 dosing in patients with cutaneous T-cell lymphoma shows preliminary clinical responses -

November 3, 2016

BOULDER, CO— miRagen Therapeutics, Inc. today announced that data from its ongoing Phase 1 clinical study of MRG-106 in patients with mycosis fungoides will be presented at the 58th Annual Meeting of the American Society of Hematology (ASH). The abstract will be available on the ASH conference web site, <http://www.hematology.org>.

In the first cohort of the MRG-106 trial, six patients were dosed by direct injection into their tumor. The six patients tolerated the administrations well with only minor redness at the injection site reported for one patient. One patient discontinued the trial due to disease progression, which was considered unrelated to the study drug. Four of the five patients who completed dosing had their Composite Assessment of Index Lesion Severity (CAILS) scores evaluated in the MRG-106 treated lesions. The lesions in these four patients showed a 50% or greater reduction in the baseline CAILS score. The CAILS score measures the size and severity of the lesion.

"We believe our initial clinical experience with MRG-106 is encouraging," said William S. Marshall, President and Chief Executive Officer of miRagen. "The drug was generally safe and well tolerated with preliminary indications of clinical responses in the first patients studied."

Poster presentation details are as follows:

Abstract Title: Preliminary Results of a Phase 1 Trial Evaluating MRG-106, a Synthetic microRNA inhibitor (LNA antimiR) of microRNA-155, in Patients with CTCL (Abstract #93903)

Session Number: 624

Session Name: Hodgkin Lymphoma and T/NK Cell Lymphoma—Clinical Studies: Poster I

Session Date: Saturday, December 3, 2016

Presentation Time: 5:30 PM – 7:30 PM

Location: San Diego Convention Center, Hall GH

About miRagen Therapeutics, Inc.

miRagen Therapeutics, Inc., is a clinical-stage biopharmaceutical company focused on the discovery and development of innovative microRNA (miRNA)-targeting therapies in disease areas of high unmet medical need. miRagen's lead product candidate, MRG-106, a synthetic microRNA inhibitor (LNA antimiR) of microRNA-155, is currently being studied in a Phase 1 clinical trial in patients suffering from cutaneous T-cell lymphoma (CTCL) of the mycosis fungoides (MF) subtype. miRagen is also conducting a Phase 1 clinical trial of MRG-201, its lead anti-fibrosis product candidate and a synthetic microRNA mimic (promiR) to microRNA-29b, in healthy volunteers. miRagen seeks to leverage in-house expertise in miRNA biology, oligonucleotide chemistry, and drug development to evaluate and advance promising technologies and high-potential product candidates for its own pipeline and in conjunction with strategic collaborators.

About MRG-106 and microRNA-155

MRG-106 is an antimiR (inhibitor) of microRNA-155. In hematological malignancy microRNA-155 has key roles in the differentiation, function and proliferation of blood and lymph cells. miRagen believes therapeutic inhibition of microRNA-155 in lymphoma cells may restore normal function and reduce the aberrant cell proliferation that is characteristic of cancerous cells.

Forward-looking Statements

This press release contains forward-looking statements relating to Miragen Therapeutics, Inc., including statements about the potential for MRG-106 to be a treatment for mycosis fungoides or any future development of MRG-106, the Company's plans to obtain funding, develop and commercialize its therapeutic candidates, its planned clinical trials, the timing of and ability to obtain and maintain regulatory approvals for the Company's therapeutic candidates, the clinical utility of its therapeutic candidates and the Company's intellectual property position. Forward-looking statements are identified by the use of forward-looking terminology including "believes," "expects," "may," "will," "should," "seeks," "intends," "plans," "pro forma," "estimates," or "anticipates" or the negative of these words and phrases or other variations of these words and phrases or comparable terminology. All statements other than statements of historical fact are statements that could be deemed forward-looking statements. These statements involve substantial known and unknown risks, uncertainties and other factors that may cause our actual results, levels of activity, performance or achievements to be materially different from the information expressed or implied by these forward-looking statements. These forward-looking statements should not be relied upon as predictions of future events as the Company cannot assure investors that the events or circumstances reflected in these statements will be achieved or will occur. The forward-looking statements in this press release represent the Company's views as of the date of this press release. The Company anticipates that subsequent events and developments will cause its views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, it has no current intention of doing so except to the extent required by applicable law. Investors should, therefore, not rely on these forward-looking statements as representing the Company's views as of any date subsequent to the date of this press release.

Additional Information about the Proposed Merger between Signal Genetics, Inc. and Miragen Therapeutics, Inc. and Where to Find It

In connection with the previously disclosed proposed merger between Signal Genetics, Inc. and Miragen Therapeutics, Inc., Signal and Miragen intend to file relevant materials with the Securities and Exchange Commission, or the SEC, including a registration statement on Form S-4 that will contain a proxy statement / prospectus / information statement. Investors and security holders of Signal and Miragen are urged to read these materials when they become available because they will contain important information about Signal, Miragen and the proposed merger. Investors and security holders are urged to read the proxy statement / prospectus / information statement and the other relevant materials when they become available before making any voting or investment decision with respect to the proposed merger.

This communication shall not constitute an offer to sell or the solicitation of an offer to sell or the solicitation of an offer to buy any securities, nor shall there be any sale of securities in any jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such jurisdiction. No offering of securities in connection with the proposed merger shall be made except by means of a prospectus meeting the requirements of Section 10 of the Securities Act of 1933, as amended.

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