Five Prime Therapeutics Presents Updated Data From the Phase 1a/1b Trial of FPA150 at the European Society for Medical Oncology 2019 Congress

September 30, 2019

- Results Provide First Clinical Demonstration of B7-H4 as a Potential Therapeutic Target and Continue to Support FPA150's Greatest Potential in Combination Therapy -

SOUTH SAN FRANCISCO, Calif.--(BUSINESS WIRE)--Sep. 30, 2019-- Five Prime Therapeutics, Inc. (NASDAQ: FPRX), a clinical-stage biotechnology company focused on discovering and developing immune modulators and precision therapies for solid tumor cancers, today presented updated data from the Phase 1a/1b clinical trial of FPA150 in patients with advanced solid tumors in a poster presentation at the European Society for Medical Oncology (ESMO) 2019 Congress in Barcelona, Spain. The poster can be found on the Scientific Publications Page of the Five Prime Therapeutics website.

The FPA150 data presented at ESMO included preliminary efficacy results from the Phase 1b monotherapy expansion portion of the study in patients preselected for B7-H4 tumor overexpression across breast, endometrial and ovarian cancers, and early safety results from the Phase 1a Keytruda® (pembrolizumab, a PD1 antibody) combination portion of the study in patients preselected for B7-H4 tumor overexpression in ovarian cancer.

"B7-H4 is a novel T cell immune checkpoint and the early results from the phase 1b monotherapy portion of our FPA150 study provide the first clinical demonstration of B7-H4 as a potential therapeutic target," said Helen Collins, Executive Vice President and Chief Medical Officer of Five Prime Therapeutics. "Based on the study results to-date, we continue to believe that the most promising opportunity for FPA150 is in combination with other therapeutic agents."

Key highlights from the presentation include:

Phase 1 FPA150 Monotherapy:

- Two patients with B7-H4 positive ovarian cancer experienced a confirmed partial response (one in the dose escalation and one at the recommended dose of 20mg/kg)
- 10 patients with stable disease remain on therapy as of August 9, 2019
- Increased tumor infiltration of T cells and NK cells observed in patients with a partial response or stable disease
- Recommended dose of 20 mg/kg was well tolerated in all patients

Phase 1 Safety Lead-in Combination of FPA150 + Pembrolizumab :

- Combination was well tolerated in the first four patients treated with FPA150 (20 mg/kg) and pembrolizumab (200 mg)
- Expansion initiated in August 2019 in a cohort of ovarian cancer patients with B7-H4 overexpression

About FPA150

FPA150 is a novel, fully human, afucosylated monoclonal antibody targeting B7-H4. B7-H4 overexpression is observed in multiple solid tumors, including breast and gynecologic cancers. FPA150 is designed with a dual mechanism of action: blocking the T cell checkpoint activity of B7-H4 as well as promoting enhanced antibody-dependent cell-mediated cytotoxicity (ADCC) against tumor cells expressing B7-H4.

About Five Prime Therapeutics

Five Prime Therapeutics, Inc. discovers and develops innovative protein therapeutics to improve the lives of patients with serious diseases. Five Prime's product candidates have innovative mechanisms of action and address patient populations in need of better therapies. Five Prime has five programs in various stages of clinical development with two of these programs partnered with Bristol-Myers Squibb. The company focuses on

researching and developing immuno-oncology and targeted cancer therapies paired with companion diagnostics to identify patients who are most likely to benefit from treatment with Five Prime's product candidates. Five Prime has entered into strategic collaborations with leading global pharmaceutical companies and has promising product candidates in clinical and preclinical development. For more information, please visit www.fiveprime.com or follow us on LinkedIn, Twitter and Facebook.

Cautionary Note on Forward-looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "plan," "anticipate," "estimate," "intend" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) are intended to identify forward-looking statements. These forward-looking statements are based on Five Prime's expectations and assumptions as of the date of this press release. Each of these forward-looking statements involves risks and uncertainties. Actual results may differ materially from these forward-looking statements. Factors that may cause actual results to differ from those expressed or implied in the forward-looking statements in this press release are discussed in Five Prime's filings with the U.S. Securities and Exchange Commission, including the "Risk Factors" contained therein. Except as required by law, Five Prime assumes no obligation to update any forward-looking statements contained herein to reflect any change in expectations, even as new information becomes available.

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