Aprea Therapeutics Announces Results of Primary Endpoint from Phase 3 Trial of Eprenetapopt in TP53 Mutant Myelodysplastic Syndromes (MDS)

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- The trial failed to meet its primary endpoint of complete remission (CR) rate
- CR rate was 53% higher in eprenetapopt with AZA arm compared to AZA alone, but did not reach statistical significance

BOSTON, Dec. 28, 2020 (GLOBE NEWSWIRE) -- Aprea Therapeutics, Inc. (Nasdaq: APRE), a biopharmaceutical company focused on developing and commercializing novel cancer therapeutics that reactivate the mutant tumor suppressor protein, p53, today announced results of the primary data cut from its Phase 3 clinical trial evaluating the safety and efficacy of eprenetapopt with azacitidine (AZA) versus AZA alone in *TP53* mutant myelodysplastic syndromes (MDS). The trial did not meet the predefined primary endpoint of complete remission (CR) rate. Analysis of the primary endpoint at this data cut demonstrated a higher CR rate in the experimental arm receiving eprenetapopt with AZA versus the control arm receiving AZA alone, but did not reach statistical significance. In the intention-to-treat population of 154 patients, the CR rate in the eprenetapopt with AZA arm was 33.3% (95% CI: 23.1% - 44.9%) compared to 22.4% (95% CI: 13.6% - 33.4%) in the AZA alone arm (P = 0.13).

While analysis of certain secondary endpoints (ORR and duration of responses) appears to favor the experimental arm at this data cut, they are not significantly different. The median duration of overall survival at the primary data cut was similar between the arms. Additional patients in the study who have not achieved a CR remain on study treatment and the data will be analyzed at future pre-specified timepoints as set forth in the statistical analysis plan. The combination of eprenetapopt with AZA appeared well-tolerated, with an adverse event profile that was similar to the Company's prior Phase 2 clinical trials. Subsequent analyses of the trial data, including secondary endpoints, will be conducted as the duration of patient follow-up increases. The Company expects to present the data at a future scientific conference.

"Though we are disappointed the topline results did not reach statistical significance, we continue to believe that eprenetapopt can offer clinical benefit to patients with *TP53* mutant malignancies," said Dr. Eyal Attar, Chief Medical Officer of Aprea. "We will continue to analyze data as it matures and follow patients who are still receiving study treatment. Our other clinical trials continue to progress and we remain committed to pursuing our clinical development programs."

About the Phase 3 Trial in *TP53* Mutant MDS

The Phase 3 trial enrolled 154 *TP53* mutant MDS patients, randomized 1:1 to either the eprenetapopt with AZA arm or the AZA alone arm. Response criteria are those defined by International Working Group 2006 (IWG 2006) and include measures of peripheral blood counts and bone marrow blasts.

About Aprea Therapeutics, Inc.

Aprea Therapeutics, Inc. is a biopharmaceutical company headquartered in Boston, Massachusetts with research facilities in Stockholm, Sweden, focused on developing and commercializing novel cancer therapeutics that reactivate mutant tumor suppressor protein, p53. The Company's lead product candidate is eprenetapopt (APR-246), a small molecule in clinical development for hematologic malignancies and solid tumors. Eprenetapopt has received Breakthrough Therapy, Orphan Drug and Fast Track designations from the FDA for myelodysplastic syndromes (MDS), Fast Track designation from the FDA for acute myeloid leukemia (AML), and Orphan Drug designation from the European Commission for MDS, AML and ovarian cancer. APR-548, a next generation small molecule reactivator of mutant p53, is being developed for oral administration. For more information, please visit the company website at www.aprea.com.

The Company may use, and intends to use, its investor relations website at https://ir.aprea.com/ as a means of disclosing material nonpublic information and for complying with its disclosure obligations under Regulation FD.

About p53, eprenetapopt and APR-548

The p53 tumor suppressor gene is the most frequently mutated gene in human cancer, occurring in approximately 50% of all human tumors. These mutations are often associated with resistance to anti-cancer drugs and poor overall survival, representing a major unmet medical need in the treatment of cancer.

Eprenetapopt (APR-246) is a small molecule that has demonstrated reactivation of mutant and inactivated p53 protein – by restoring wild-type p53 conformation and function – thereby inducing programmed cell death in human cancer cells. Pre-clinical anti-tumor activity has been observed with eprenetapopt in a wide variety of solid and hematological cancers, including MDS, AML, and ovarian cancer, among others. Additionally, strong synergy has been seen with both traditional anti-cancer agents, such as chemotherapy, as well as newer mechanism-based anti-cancer drugs and immuno-oncology checkpoint inhibitors. In addition to

pre-clinical testing, a Phase 1/2 clinical program with eprenetapopt has been completed, demonstrating a favorable safety profile and both biological and confirmed clinical responses in hematological malignancies and solid tumors with mutations in the *TP53* gene.

A pivotal Phase 3 clinical trial of eprenetapopt and azacitidine for frontline treatment of *TP53* mutant MDS has been completed and additional clinical trials in hematologic malignancies and solid tumors are ongoing. Eprenetapopt has received Breakthrough Therapy, Orphan Drug and Fast Track designations from the FDA for MDS, Fast Track designation from the FDA for AML, and Orphan Drug designation from the European Medicines Agency for MDS, AML and ovarian cancer.

APR-548 is a next-generation small molecule p53 reactivator. APR-548 has demonstrated high oral bioavailability, enhanced potency relative to eprenetapopt in *TP53* mutant cancer cell lines and has demonstrated in vivo tumor growth inhibition following oral dosing of tumor-bearing mice. Enrollment in a Phase 1 clinical trial of APR-548 is anticipated to begin in the first quarter of 2021.

Forward-Looking Statement

Certain information contained in this press release includes “forward-looking statements”, within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended, related to our study analyses, clinical trials, regulatory submissions and projected cash position. We may, in some cases use terms such as “future,” “predicts,” “believes,” “potential,” “continue,” “anticipates,” “estimates,” “expects,” “plans,” “intends,” “targeting,” “confidence,” “may,” “could,” “might,” “likely,” “will,” “should” or other words that convey uncertainty of the future events or outcomes to identify these forward-looking statements. Our forward-looking statements are based on current beliefs and expectations of our management team that involve risks, potential changes in circumstances, assumptions, and uncertainties. Any or all of the forward-looking statements may turn out to be wrong or be affected by inaccurate assumptions we might make or by known or unknown risks and uncertainties. These forward looking statements are subject to risks and uncertainties including risks related to the success and timing of our clinical trials or other studies, risks associated with the coronavirus pandemic and the other risks set forth in our filings with the U.S. Securities and Exchange Commission. For all these reasons, actual results and developments could be materially different from those expressed in or implied by our forward-looking statements. You are cautioned not to place undue reliance on these forward-looking statements, which are made only as of the date of this press release. We undertake no obligation to publicly update such forward-looking statements to reflect subsequent events or circumstances.

Source: Aprea Therapeutics, Inc.

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