NEWS RELEASE

ZENTALIS PHARMACEUTICALS ANNOUNCES THE INITIATION OF MULTIPLE EARLY-STAGE CLINICAL TRIALS

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Advancing the development of its oral SERD, WEE1 inhibitor and BCL-2 inhibitor product candidates
NEW YORK and SAN DIEGO, Jan. 06, 2021 (GLOBE NEWSWIRE) -- Zentalis Pharmaceuticals, Inc. (Nasdaq: ZNTL), a clinical-stage biopharmaceutical company focused on discovering and developing small molecule therapeutics targeting fundamental biological pathways of cancers, today announced that Zentalis has initiated patient dosing in three new combination and monotherapy clinical trials:

- A Phase 1b combination trial with ZN-c5 and abemaciclib (marketed as Verzenio® by Eli Lilly) in ER+/HER2- advanced breast cancer;
- A Phase 1 combination dose escalation trial with ZN-c3 and chemotherapy in advanced ovarian cancer; and
- A Phase 1 trial with ZN-d5 in acute myeloid leukemia and Non-Hodgkin's Lymphoma.

"At Zentalis, our primary focus is to rapidly bring novel and transformative medicines to patients diagnosed with a wide variety of cancers," said Dr. Anthony Sun, Chairman and Chief Executive Officer at Zentalis Pharmaceuticals. "With the initiation of these clinical trials during the fourth quarter of 2020, we are excited to explore the potential benefit of our candidates, either as a monotherapy or in combination, assessing the safety, tolerability and pharmacokinetics of the treatments. These data will provide key insight needed for future trials, laying the foundation to continue to advance the investigation of ZN-c5, ZN-c3 and ZN-d5."

For more information on the trials, visit www.clinicaltrials.gov.

About ZN-c5

ZN-c5 is an oral selective estrogen receptor degrader (SERD) being developed for the treatment of ER+/HER2- advanced or metastatic breast cancer. This form of breast cancer is reliant on the estrogen receptor for tumor growth and survival. Zentalis is currently conducting a Phase 1/2 clinical trial of ZN-c5 in patients with ER+/HER2- advanced or metastatic breast cancer as a monotherapy. The Company

is also investigating ZN-c5 in combination studies, including a Phase 1/2 trial with palbociclib (Ibrance®) through a clinical research collaboration with Pfizer and a Phase 1b trial with abemaciclib (Verzenio®) through a clinical research collaboration with Eli Lilly.

About ZN-c3

ZN-c3 is an oral inhibitor of WEE1 in development for the treatment of advanced solid tumors. The inhibition of WEE1, a DNA damage response protein, aims to generate sufficient DNA damage in cancer cells, causing cell death, thereby preventing tumor growth and potentially causing tumor regression. Zentalis is currently conducting a Phase 1/2 clinical trial of ZN-c3 as a monotherapy in patients with advanced solid tumors, and a Phase 1b clinical trial evaluating ZN-c3 in combination with chemotherapy in patients with advanced ovarian cancer.

About ZN-d5

ZN-d5 is an oral inhibitor of B-cell lymphoma 2 (BCL-2), in development initially for the treatment of hematologic malignancies. BCL-2 plays a critical role in the regulation of cell death and the overexpression of this protein is frequently detected in numerous cancer types, preventing apoptosis. Zentalis believes a BCL-2 inhibitor will restore the normal apoptosis process. The Company has initiated a Phase 1 trial of ZN-d5 in patients with AML and Non-Hodgkin's Lymphoma.

About Zentalis

Zentalis Pharmaceuticals, Inc. is a clinical-stage biopharmaceutical company focused on discovering and developing small molecule therapeutics targeting fundamental biological pathways of cancers. The Company is developing a broad pipeline of potentially best-in-class oncology candidates, including ZN-c5, an oral selective estrogen receptor degrader (SERD) for ER+/HER2- breast cancer, ZN-c3, a WEE1 inhibitor, ZN-d5, a BCL-2 inhibitor and ZN-e4, an EGFR inhibitor. Zentalis has operations in both New York and San Diego.

For more information, please visit www.zentalis.com. Follow Zentalis on Twitter at @ZentalisP and on LinkedIn at www.linkedin.com/company/zentalis-pharmaceuticals.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including without limitation statements regarding our expectations surrounding the development, potential, safety, efficacy, and regulatory and clinical progress of our product candidates in the Unites States and globally, plans and timing of clinical trials and our ability to meet other key milestones. These statements are neither promises nor guarantees, but involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements, including, but not limited to, the following: the outbreak of the novel coronavirus disease, COVID-19, has adversely impacted and may continue to adversely impact our business, including our preclinical studies and clinical trials; our limited operating history, which may make it difficult to evaluate our current business and predict our future success and viability; we have and expect to continue to incur significant losses; our need for additional funding, which may not be available; our substantial dependence on the success of our lead product candidate; failure to identify additional product candidates and develop or commercialize marketable products; the early stage of

our development efforts; potential unforeseen events during clinical trials could cause delays or other adverse consequences; risks relating to the regulatory approval process or ongoing regulatory obligations; failure to obtain U.S. or international marketing approval; our product candidates may cause serious adverse side effects; inability to maintain our collaborations, or the failure of these collaborations; our reliance on third parties; effects of significant competition; the possibility of system failures or security breaches; risks relating to intellectual property; our ability to attract, retain and motivate qualified personnel; and significant costs as a result of operating as a public company. These and other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarterly period ended September 30, 2020 filed with the U.S. Securities and Exchange Commission (SEC) and our other filings with the SEC could cause actual results to differ materially from those indicated by the forward-looking statements made in this press release. Any such forward-looking statements represent management's estimates as of the date of this press release. While we may elect to update such forward-looking statements at some point in the future, we disclaim any obligation to do so, even if subsequent events cause our views to change.

Investor Contact:
Thomas Hoffmann
Solebury Trout
1.646.378.2931
thoffmann@soleburytrout.com

Media Contact:
Julia Deutsch
Solebury Trout
1.646.378.2967
jdeutsch@soleburytrout.com