Morphic Presents New Positive MORF-057 Phase 1 Data at American College of Gastroenterology Annual Meeting 2022

October 25, 2022

Saturating receptor occupancy at 100 and 200 mg BID doses

Statistically significant effects on key lymphocyte subsets

WALTHAM, Mass., Oct. 25, 2022 (GLOBE NEWSWIRE) -- Morphic Therapeutic (Nasdaq: MORF), a biopharmaceutical company developing a new generation of oral integrin therapies for the treatment of serious chronic diseases, today announced the presentation of data from a new MORF-057 phase 1 study at the American College of Gastroenterology (ACG) Annual Meeting 2022 that strongly support the ongoing EMERALD-1 phase 2a study and the upcoming EMERALD-2 phase 2b study of MORF-057. MORF-057 is being developed as an oral α4β7 inhibitor candidate for the treatment of inflammatory bowel disease (IBD) with an initial focus in ulcerative colitis (UC).

"I believe that we have characterized the pharmacokinetic profile of MORF-057 fully, and clearly understand the relationship between its dose and pharmacodynamic activity. These new data presented at ACG 2022 recapitulate and augment the MORF-057 profile demonstrated in all previous studies," commented Bruce Rogers, PhD, President of Morphic. "We are particularly encouraged by the statistically significant effects on relevant T cell populations, switched memory B cells and CCR9 mRNA observed. Further, 100 and 200 mg doses demonstrate saturating α4β7 receptor occupancy with a maximal level of impact on these lymphocyte populations, indicating that our pharmacodynamic effect is fully realized at these doses."

In the phase 1 study all doses were well tolerated, no safety signals were identified, and a favorable pharmacokinetic profile was observed. In both single doses of 200 mg MORF-057 and 200 mg BID over the 14 days, MORF-057 demonstrated α4β7 receptor saturation at C_{trough}. Statistically significant changes in lymphocyte subset populations and CCR9 mRNA were observed, consistent with previous studies.

About the MORF-057 Phase 1 Study
The study was a two-part phase 1 trial evaluating the safety, pharmacokinetics, and pharmacodynamics of MORF-057 in healthy volunteers. The first cohort received 25 mg or 100 mg of MORF-057 under fed or fasted conditions. The second cohort received a 200 mg single dose of MORF-057 and, followed by a washout period, 200 mg BID of MORF 057 for 14.

The MORF-057 ACG 2022 poster, **E0359**, is available under the investors tab at morphictx.com

About the MORF-057 ACG 2022 Poster
Title: *Full Target Engagement with Saturation of $\alpha_4\beta_7$ Integrin Receptor Occupancy Resulting in Changes in Subset of Lymphocytes by MORF-057 Following 200 mg Twice Daily Dosing in Healthy Subjects*

Presenter: Michael Choi, M.D.

Contributors: Ajit Chavan, Michael Choi, J. Jones, D. Lee, Maloy Mangada, Ali Hussain, Shilpa Thosar, Dan Cui, Y. Wu, Mimi Chae, Carolyn Soo, Hanh Nguyen, Lellean JeBailey, Adrian Ray, Bruce Rogers, Gerard Bain

About MORF-057
MORF-057 is currently being evaluated in the EMERALD Phase 2 studies for patients with mild to moderate ulcerative colitis. Morphic is developing MORF-057 as a selective, oral small molecule inhibitor of the α4β7 integrin for patients with inflammatory bowel disease (IBD). α4β7 has been clinically validated as a target for the treatment of IBD by the success of the approved injectable antibody therapeutic vedolizumab. MORF-057 is designed to block the interactions between α4β7 on the surface of lymphocytes and the mucosal endothelial cell ligand MAdCAM-1, substantially reducing lymphocyte migration from the bloodstream into intestinal mucosal tissues and causing inflammation that is associated with IBD.

About Morphic Therapeutic
Morphic Therapeutic is a biopharmaceutical company developing a portfolio of oral integrin therapies for the treatment of serious chronic diseases, including autoimmune, cardiovascular, and metabolic diseases, fibrosis, and cancer. Morphic is also advancing its pipeline and discovery activities in collaborations with Janssen and Schrödinger using its proprietary MInT technology platform which leverages the Company's unique understanding of integrin structure and biology. For more information, visit www.morphictx.com.

Cautionary Note Regarding Forward-Looking Statements
This press release contains "forward-looking" statements within the meaning of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to: the MInT Platform's ability to discover drug candidates, Morphic's plans to develop and commercialize oral small-molecule integrin therapeutics and any proposed timing thereof, the initiation, execution and completion of MORF-057 phase 2 clinical trials, any expectations about safety, efficacy, timing and ability to commence or complete clinical studies and/or trials and to obtain regulatory approvals for MORF-057 and other candidates in development, the timing of further data presentation and the ability of MORF-057 to treat inflammatory bowel disease, including ulcerative colitis, or related indications. Statements including words such as "believe," "plan," "continue," "expect," "will be," "develop," "signal," "potential," "anticipate" or "ongoing" and statements in the future tense are forward-looking statements. These forward-looking statements involve risks and uncertainties, as well as assumptions, which, if they do not fully materialize or prove incorrect, could cause our results to differ materially from those expressed or implied by such forward-looking statements. Forward-looking statements are subject to risks and uncertainties that may cause Morphic's actual activities or

results to differ significantly from those expressed in any forward-looking statement, including risks and uncertainties in this press release and other risks set forth in our filings with the Securities and Exchange Commission, including Morphic's or a partner's ability to complete a current or future clinical trial of any of our current or future product candidates, develop or obtain regulatory approval for or commercialize any product candidate, Morphic's ability to protect intellectual property, the potential impact of the COVID-19 pandemic, and the sufficiency of our cash, cash equivalents and investments to fund our operations. These forward-looking statements speak only as of the date hereof and Morphic specifically disclaims any obligation to update these forward-looking statements or reasons why actual results might differ, whether as a result of new information, future events or otherwise, except as required by law.

Contacts

Morphic Therapeutic
Chris Erdman
chris.erdman@morphictx.com
617.686.1718