



## Morphic Presents Positive Preclinical Data Supporting MORF-057 as an Oral Inhibitor of the $\alpha_4\beta_7$ Integrin and Potential Treatment for Inflammatory Bowel Disease

February 14, 2020

Oral presentation at ECCO highlights MORF-057 as a potent, selective and orally available small molecule development candidate

Mechanism of action demonstrated in *in vitro* and *in vivo* models

WALTHAM, Mass., Feb. 14, 2020 (GLOBE NEWSWIRE) -- [Morphic Therapeutic](#) (NASDAQ: MORF), a biopharmaceutical company developing a new generation of oral integrin therapies for the treatment of serious chronic diseases, announced an oral presentation today highlighting Morphic's product candidate MORF-057 at the 15<sup>th</sup> Congress of the European Crohn's and Colitis Organisation (ECCO). MORF-057 is in development as an oral inhibitor of the  $\alpha_4\beta_7$  integrin, a clinically proven target for the treatment of inflammatory bowel diseases (IBD).

"The approved antibody therapeutic vedolizumab has provided validation of  $\alpha_4\beta_7$  as an effective target for the treatment of inflammatory bowel disease. However, a significant opportunity remains to address IBD with an orally administered therapeutic," commented Bruce Rogers, Ph.D., chief scientific officer of Morphic Therapeutic. "We are highly encouraged that the data presented at ECCO demonstrate MORF-057's favorable *in vitro* pharmacodynamic characteristics and these results are reinforced by the positive outcomes in *in vivo* models using oral administration of MORF-057. These data further strengthen our conviction to move MORF-057 forward into clinical studies as planned."

MORF-057 was specifically designed to inhibit  $\alpha_4\beta_7$ -mediated migration of  $\alpha_4\beta_7$ -expressing lymphocytes to the gut, which is a fundamental contributor to IBD. The data presented at ECCO support MORF-057 as a potent, selective and orally bioavailable small molecule inhibitor of the  $\alpha_4\beta_7$  integrin. In the studies presented, MORF-057 showed greater than 41,600-fold selectivity for  $\alpha_4\beta_7$  over  $\alpha_4\beta_1$ .<sup>1</sup> High specificity for  $\alpha_4\beta_7$  over  $\alpha_4\beta_1$  is necessary to avoid inhibiting  $\alpha_4\beta_1$ , which enables potentially pathological migration of lymphocytes to the central nervous system. Further, the data demonstrate that MORF-057 acts through its intended mechanism of action, by blocking the migration of  $\alpha_4\beta_7$ -high-expressing lymphocytes. Notably, these results were replicated in both murine and primate models, with MORF-057 activity being equivalent to the murine equivalent of vedolizumab.

### Details of the Oral Presentation at ECCO 2020:

**Session:** Current and novel targets for IBD agents

**Title:** Discovery of highly selective small molecule oral inhibitors of integrin  $\alpha_4\beta_7$  for the treatment of inflammatory bowel diseases

**Presenter:** Dr. Jamie Wong, Ph.D.

**Contributors:** Matthew Bursavich, Natalia Blanco, Adam Camblin, Laura Cappellucci, Rhianna Cohen, Dan Cui, Megan Krumpoch, Cheng Zhong, Kristopher Hahn, Dooyoung Lee, Blaise Lippa, Fu-Yang Lin, Alex Lugovskoy, Molly McShea, Siavash Mostafavi, Terence Moy, Andrew Sullivan, Dawn Troast, Liangsu Wang, Bruce Rogers

**Presentation number:** DOP64

This ECCO presentation will be available on the [Morphic website](#) in the Investors section.

### About MORF-057

Morphic is developing MORF-057 as a selective, oral small molecule inhibitor of the  $\alpha_4\beta_7$  integrin, a target for the treatment of inflammatory bowel diseases (IBD) that has been clinically validated by the success of the approved antibody therapeutic vedolizumab.  $\alpha_4\beta_7$  inhibition is intended to block the interactions between  $\alpha_4\beta_7$  on the surface of lymphocytes and the gut cell ligand MAdCAM-1, preventing lymphocyte migration from the bloodstream into intestinal mucosal tissues and causing inflammation. Morphic believes an approved oral  $\alpha_4\beta_7$  inhibitor has significant potential as a best-in-class medication for some types of IBD, and may offer therapeutic opportunity earlier in disease progression as a way of changing the course of disease for many patients.

### About Morphic Therapeutic

Morphic Therapeutic is a biopharmaceutical company developing a new generation of oral integrin therapies for the treatment of serious chronic diseases, including autoimmune, cardiovascular and metabolic diseases, fibrosis and cancer. In collaboration with AbbVie, Janssen and Schrödinger, Morphic is advancing its pipeline and discovery activities 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](http://www.morphictx.com).

1. ECCO presentation Wong, et al 2/14/20: selectivity was determined by comparing potency against  $\alpha_4\beta_7$  and  $\alpha_4\beta_1$  in RPMI8866 and Jurkat cell lines, respectively.

### Cautionary Note Regarding Forward-Looking Statements

This press release contains "forward-looking" statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to: Morphic's plan to develop and commercialize oral small-molecule integrin therapeutics; the ability of MORF-057 or any  $\alpha_4\beta_7$ -specific integrin inhibitors to treat inflammatory bowel disease; Morphic's ability to fund its operations; and Morphic's expectations about timing and ability to obtain regulatory approvals for MORF-057 or any  $\alpha_4\beta_7$ -specific integrin inhibitors. Statements including words such as "believe," "develop," "support," "plan," "expect," "opportunity," or "potential" 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 Morphtic's actual activities or results to differ significantly from those expressed in any forward-looking statement, including risks and uncertainties related to Morphtic's ability to develop, obtain regulatory approval for and commercialize MORF-057 or any  $\alpha_4\beta_7$ -specific integrin inhibitors and other product candidates, the timing and results of preclinical studies and clinical trials, Morphtic's ability to protect intellectual property; and other risks set forth in our filings with the Securities and Exchange Commission. These forward-looking statements speak only as of the date hereof and Morphtic 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**

Morphtic Therapeutic  
Chris Erdman  
SVP, Communications  
[chris.erdman@morphticx.com](mailto:chris.erdman@morphticx.com)  
617.686.1718

Media Contact  
Tom Donovan, Ten Bridge Communications  
[tom@tenbridgecommunications.com](mailto:tom@tenbridgecommunications.com)  
857.559.3397

