



Summit Therapeutics plc
(‘Summit’ or the ‘Company’)

Summit Announces Publication of Phase 2 Clinical Analyses of Gut Microbiome Health

Oxford, UK, and Cambridge, MA, US, July 13, 2020 – Summit Therapeutics plc (NASDAQ: SMMT) today announces the publication of data from the Phase 2 clinical trial of the company’s precision antibiotic, ridinilazole, in development for the treatment of *C. difficile* infection (‘CDI’) in the *American Journal of Physiology – Gastrointestinal and Liver Physiology*. The data published in collaboration with researchers at Tufts University and Tufts Medical Center demonstrated that ridinilazole’s microbiome preservation resulted in a gut environment expected to inhibit the growth of *C. difficile*. In contrast, vancomycin treatment resulted in a gut environment that may more highly favor the growth of *C. difficile*. The difference in gut environment could explain the approximately 60% relative reduction in recurrence observed in patients treated with ridinilazole over vancomycin in the Phase 2 trial.

“This is the first scientific article ever to show the effect of antibiotics treating CDI on the bile acid composition in the human gut. In addition, CoDIFy is the first clinical study to highlight the differential effects of antibiotics on bile acids, which are known to create environments that can either promote or protect against CDI,” said Dr. Ventzislav Stefanov, Executive Vice President and President of Discuva. “The protective gut environment observed after ridinilazole treatment, compared to vancomycin, provides a strong rationale for the higher sustained clinical response observed in patients taking ridinilazole in the CoDIFy clinical trial.”

The Phase 2 clinical trial enrolled 100 patients, half of whom received ridinilazole and the other half vancomycin. The publication, [“Ridinilazole, a narrow spectrum antibiotic for treatment of Clostridioides difficile infection, enhances preservation of microbiota-dependent bile acids.”](#) was authored by X. Qian, K. Yanagi, A. Kane, N. Alden, M. Lei, D. Snyderman, R. Vickers, K. Lee and C. Thorpe. In the published data, there was a higher ratio of pro-*C. difficile* to anti-*C. difficile* bile acids at the start of treatment for both ridinilazole- and vancomycin-treated patients. This was expected, as patients who get CDI have perturbed microbiomes. However, during treatment, patients treated with vancomycin showed a further decrease in anti-*C. difficile* bile acids and had stools dominated by pro-*C. difficile* bile acids. In contrast, this did not occur in ridinilazole-treated patients. By the end of the study period, ridinilazole-treated patients’ bile acid ratios trended towards a healthy, non-CDI state. These results support the data from the Phase 2 clinical trial, in which patients receiving ridinilazole showed a statistically significant improvement in sustained clinical responses.

About *C. difficile* Infection

Clostridioides difficile, or *C. difficile*, infection (CDI) is a bacterial infection of the colon that produces toxins causing inflammation of the colon and severe diarrhea. CDI can also result in more serious disease complications, including pseudomembranous colitis, bowel perforation, toxic megacolon and sepsis. CDI represents a serious healthcare issue in hospitals, long-term care homes and in the wider community. Summit estimates there are over one million cases of CDI each year in the United States and Europe, based on an epidemiology report on CDI that was published in 2015 by Decision Resources, a healthcare research and consulting company. Recurrence rates of up to 25% have been reported following treatment with the current standard of care, vancomycin. The vicious cycle of recurrence continues further, with patients who have one recurrence being at increased risk for another.



The Healthcare Cost and Utilization Project, a family of databases developed through a federal-state-industry partnership, sponsored by the Agency for Healthcare Research and Quality of the US Department of Health and Human Services, reported an approximate 3.5-fold increase in hospital stays associated with CDI between 2000 and 2008. The economic impact of CDI is significant. A study published in 2016 in *BMC Infectious Diseases* estimated that the total costs attributable to the management of CDI were approximately \$6.3 billion per year.

About Ridinilazole

Ridinilazole is an investigational oral small molecule new mechanism antibiotic that is designed to selectively kill *C. difficile*, thereby preserving patients' protective gut microbiome and leading to sustained CDI cures. In a Phase 2 proof of concept trial in CDI patients, ridinilazole showed statistical superiority in sustained clinical response ('SCR') rates compared to vancomycin. In that trial, SCR was defined as clinical cure at end of treatment and no recurrence of CDI within 30 days of the end of therapy. Ridinilazole was also shown to be highly preserving of the gut microbiome in the Phase 2 proof of concept trial. The gut microbiome is known to be important in protecting against CDI. Ridinilazole has received Qualified Infectious Disease Product ('QIDP') designation and has been granted Fast Track designation by the US Food and Drug Administration. The QIDP incentives are provided through the US GAIN Act and include a potential extension of marketing exclusivity for an additional five years upon FDA approval.

About Bile Acids

Bile acids are produced in the liver and secreted into the gastrointestinal (GI) tract to aid in the digestion of dietary fats and lipids. They appear as a variety of forms including conjugated primary bile acids, primary bile acids and secondary bile acids. The levels of different bile acids can play a direct role in *C. difficile* infection, primary bile acids are known to promote the germination of *C. difficile* spores, whilst secondary bile acids prevent germination of spores and inhibit the growth of vegetative *C. difficile* cells. A healthy individual might be expected to have low levels of primary bile acids and high levels of protective secondary bile acids in their lower GI tract.

About Summit Therapeutics

Summit Therapeutics, led by its Discuva Platform, the Company's discovery engine, is a leader in antibiotic innovation. Our new mechanism antibiotics are designed to become the patient-friendly new era standard of care for those suffering from infectious disease, subject to regulatory approvals, and create value for payors and healthcare providers. In the present time, we are developing new mechanism antibiotics to treat infections caused by *C. difficile*, Enterobacteriaceae and *N. gonorrhoeae* and are using our proprietary Discuva Platform to expand our pipeline. For more information, visit www.summitplc.com and follow us on Twitter @summitplc. For more information on the Company's Discuva Platform, visit <https://www.summitplc.com/our-science/discuva-platform>.

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Summit Forward-looking Statements

Any statements in this press release about the Company's future expectations, plans and prospects, including but not limited to, statements about the clinical and preclinical development of the Company's product candidates, the therapeutic potential of the Company's product candidates, the potential commercialization of the Company's product candidates, the sufficiency of the Company's cash resources, the timing of initiation, completion and availability of data from clinical trials, the potential submission of



applications for marketing approvals and other statements containing the words "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "plan," "potential," "predict," "project," "should," "target," "would," and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the uncertainties inherent in the initiation of future clinical trials, availability and timing of data from ongoing and future clinical trials and the results of such trials, whether preliminary results from a clinical trial will be predictive of the final results of that trial or whether results of early clinical trials or preclinical studies will be indicative of the results of later clinical trials, expectations for regulatory approvals, laws and regulations affecting government contracts and funding awards, availability of funding sufficient for the Company's foreseeable and unforeseeable operating expenses and capital expenditure requirements and other factors discussed in the "Risk Factors" section of filings that the Company makes with the Securities and Exchange Commission, including the Company's Transition Report on Form 20-F for the eleven months ended 31 December 2019. Accordingly, readers should not place undue reliance on forward-looking statements or information. In addition, any forward-looking statements included in this press release represent the Company's views only as of the date of this release and should not be relied upon as representing the Company's views as of any subsequent date. The Company specifically disclaims any obligation to update any forward-looking statements included in this press release.

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