



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

Summit Therapeutics Reports New Data from Phase 2 Clinical Trial Connecting Ridinilazole’s Microbiome Preservation to Improved Clinical Outcomes for Patients with *C. difficile* Infection

- **Data Presented at ID Week 2019**

Oxford, UK, and Cambridge, MA, US, 7 October 2019 – Summit Therapeutics plc (NASDAQ: SMMT, AIM: SUMM) today announced the presentation of new data that explain the link between two key findings in the Company’s Phase 2 clinical trial of ridinilazole for *C. difficile* infection (‘CDI’):

- Ridinilazole demonstrated superior efficacy compared to vancomycin, driven by a 60% lower recurrence rate.
- Ridinilazole preserved the diversity of the gut microbiome.

Researchers at Tufts University, collaborating with Summit, showed that these findings are connected mechanistically by bile acids, part of the ‘metabolome’ of active chemicals made or modified by gut bacteria. Bile acids exist in different forms that can either favour or block the regrowth of *C. difficile* after treatment. Vancomycin kills bacteria that turn pro-*C. difficile* bile acids into anti-*C. difficile* bile acids – leaving an adverse ratio of pro- and anti-growth chemicals that favours the regrowth of *C. difficile* and the recurrence of *C. difficile* infection. By contrast, ridinilazole leaves these bacteria unharmed, allowing them to keep converting pro-*C. difficile* bile acids into anti-*C. difficile* bile acids, maintaining a positive chemical balance that prevents *C. difficile* recurrence.

“The damaging effect of broad-spectrum antibiotics in the treatment of CDI is far-reaching from the make-up and function of the gut microbiome through the poor clinical outcomes seen in one third of patients, driven by a high rate of disease recurrence,” said Dr David Roblin, President of R&D of Summit. “Ridinilazole has the potential to be a targeted CDI treatment that could result in significantly better patient outcomes for the over half million US patients per year who have an episode of CDI. These latest data help to put the science behind the function of a healthy microbiome into context and highlight its importance in sustaining CDI cures.”

The Phase 2 clinical trial enrolled 100 patients, half of whom received ridinilazole and the other half vancomycin. For both groups, there was a higher ratio of pro-*C. difficile* to anti-*C. difficile* bile acids at the start of treatment. This was expected, as patients who get CDI have perturbed microbiomes. However, during treatment, the proportion of anti-*C. difficile* bile acids increased in patients treated with ridinilazole, whereas patients treated with vancomycin initially showed decreases in anti-*C. difficile* bile acids and had stools dominated by pro-*C. difficile* bile acids. By the end of treatment, ridinilazole-treated patients’ bile acid ratios returned 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.

Copies of the two poster presentations are available in the Publications section of Summit’s website, www.summitplc.com.

About *C. difficile* Infection

C. difficile infection is a serious healthcare threat in hospitals, long-term care homes and increasingly in the wider community with over one million estimated cases of CDI annually in the United States and Europe. CDI is caused by an infection of the colon by the bacterium *C. difficile*, which produces toxins that cause inflammation and severe diarrhoea, and in the most serious cases can be fatal. Patients typically develop CDI following the use of broad-spectrum antibiotics that can cause widespread damage to the natural



gastrointestinal (gut) flora and allow overgrowth of *C. difficile* bacteria. The vast majority of patients are treated with broad-spectrum antibiotics, which cause further damage to the gut flora and are associated with high rates of recurrent disease. Reducing disease recurrence is the key clinical issue in CDI as repeat episodes are typically more severe and associated with an increase in mortality rates and healthcare costs. A study estimated that the total costs attributable to the management of CDI were approximately \$6.3 billion per year in the United States.

About Ridinilazole

Ridinilazole is an 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 the standard of care, 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, which was believed to be the reason for the improved clinical outcome for the ridinilazole-treated patients. In addition, ridinilazole preserved the gut microbiome to a greater extent than the marketed narrow-spectrum antibiotic fidaxomicin in an exploratory Phase 2 clinical trial. 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 Summit Therapeutics

Summit Therapeutics is a leader in antibiotic innovation. Our new mechanism antibiotics are designed to become the new standards of care for the benefit of patients and create value for payors and healthcare providers. We are currently developing new mechanism antibiotics for infections caused by *C. difficile*, *N. gonorrhoeae* and Enterobacteriaceae and are using our proprietary Discuva Platform to expand our pipeline. For more information, visit www.summitplc.com and follow us on Twitter @summitplc.

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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 potential benefits and future operation of the BARDA contract, including any potential future payments thereunder, the clinical and preclinical development of the Company's product candidates, the therapeutic potential of the Company's product candidates, the potential commercialisation 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 ability of BARDA to terminate our contract for convenience at any time, 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 Annual Report on Form 20-F for the fiscal year ended 31 January 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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