



Zafgen Presents New Preclinical Data on ZGN-1061 at the 53rd Annual Meeting of the European Association for the Study of Diabetes

*- Data Demonstrate Dose-Dependent Beneficial Impact of ZGN-1061 on Glucose Tolerance, Body Weight and Cardiometabolic Markers-
-Improvements in Glycemic Control Independent of Weight Loss-*

BOSTON, September 12, 2017 – Zafgen, Inc. (Nasdaq:ZFGN), today announced the presentation of data for ZGN-1061 at the 53rd Annual Meeting of the European Association for the Study of Diabetes being held in Lisbon, Portugal from September 11-15, 2017. ZGN-1061, the Company's second-generation MetAP2 inhibitor, is advancing toward a Phase 2 clinical trial in patients with type 2 diabetes. The poster presentations are available on the "Events & Presentations" section of the Zafgen website.

The data presented includes previously presented data from the Phase 1 clinical trial of ZGN-1061, as well as new preclinical data demonstrating the dose-dependent effect of ZGN-1061 on glucose tolerance, weight loss, and several metabolic markers in diet-induced obese mice.

“The results presented today underscore the potential of ZGN-1061 to positively impact glycemic control, body weight and other metabolic parameters, consistent with MetAP2 inhibition,” stated Thomas Hughes, Ph.D., President and Chief Executive Officer of Zafgen. “Importantly, the new preclinical data illustrate that the improvement in glucose tolerance produced by ZGN-1061 occurs independently from weight loss benefits seen with the compound. These results reinforce our confidence in the program as we advance into a Phase 2 clinical trial of ZGN-1061 in patients with type 2 diabetes.”

At the meeting, Zafgen presented new data from a preclinical study evaluating ZGN-1061 in a mouse model of obesity and insulin resistance. Highlights of the data include:

- ZGN-1061 produced dose-dependent improvements in glucose tolerance and insulin levels in diet induced obese mice.
- ZGN-1061 produced a dose-dependent reduction in body weight that was primarily due to loss of fat mass.
- The improvements in glucose tolerance and insulin levels seen with ZGN-1061 also occurred with low dose levels which did not result in weight change and suggest these glucose homeostatic benefits can be dissociated, at least in part, from a weight loss effect or food intake effect.
- Improvements in metabolic biomarkers, including non-esterified fatty acids, ketone bodies (β -hydroxybutyrate), and leptin, were consistent with loss of fat mass as well as increased fat mobilization and oxidation.

Zafgen also presented findings from the company's Phase 1 clinical trial of ZGN-1061. As previously reported, the data show that ZGN-1061 treatment causes improvements across multiple metabolic

measures consistent with MetAP2 inhibition, demonstrates rapid drug absorption and clearance, and has a favorable safety profile with no evidence of prothrombotic effects.

About ZGN-1061

ZGN-1061 is a fumagillin-class, injectable small molecule second generation MetAP2 inhibitor that was advanced into development due to its unique properties that maximize impact on metabolic parameters relevant to the treatment of type 2 diabetes and other related metabolic disorders. In preclinical studies, ZGN-1061 has demonstrated promising efficacy in animal models of type 2 diabetes and obesity, with an improved pharmacokinetic profile and safety margin relative to previous molecules in the MetAP2 inhibitor class. As demonstrated clinically for MetAP2 inhibitors, ZGN-1061 is anticipated to improve glycemic control while also helping to restore balance to fat metabolism, enabling calories to once again be used as a productive energy source, leading to improved metabolic control and long-term weight loss. Zafgen recently completed its first Phase 1 clinical trial of ZGN-1061, and is planning to advance the compound to Phase 2 clinical testing in patients with type 2 diabetes who are overweight or obese. Zafgen holds exclusive worldwide rights for the development and commercialization of ZGN-1061.

About Zafgen

Zafgen (Nasdaq:ZFGN) is a biopharmaceutical company dedicated to significantly improving the health and well-being of patients affected by metabolic diseases including type 2 diabetes and obesity. Zafgen is focused on developing novel therapeutics that treat the underlying biological mechanisms of metabolic diseases through the MetAP2 pathway. Zafgen has pioneered the study of MetAP2 inhibitors in both common and rare forms of obesity, and in patients affected by type 2 diabetes. Zafgen's lead product candidate is ZGN-1061, which is a novel, first-in-class, subcutaneous injection. Zafgen aspires to improve the lives of patients through targeted treatments and has assembled a team accomplished in bringing therapies to patients affected by metabolic diseases.

Safe Harbor Statement

Various statements in this release concerning Zafgen's future expectations, plans and prospects, including without limitation, Zafgen's expectations regarding the use of ZGN-1061 and other MetAP2 inhibitors as treatments for metabolic diseases including type 2 diabetes and obesity, ZGN-1061's improved safety margin, including as it relates to prothrombotic characteristics, compared to first generation MetAP2 inhibitors, such as over beloranib, and Zafgen's expectations with respect to the timing and success of its preclinical studies and clinical trials of ZGN-1061 and its other product candidates, may constitute forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995 and other federal securities laws. Forward-looking statements can be identified by terminology such as "anticipate," "believe," "could," "could increase the likelihood," "estimate," "expect," "intend," "is planned," "may," "should," "will," "will enable," "would be expected," "look forward," "may provide," "would" or similar terms, variations of such terms or the negative of those terms. Actual results may differ materially from those indicated by

these forward-looking statements as a result of various important factors, including, without limitation, Zafgen's ability to successfully demonstrate the efficacy and safety of ZGN-1061 and its other product candidates and to differentiate ZGN-1061 and its other product candidates from first generation MetAP2 inhibitors, such as beloranib, the preclinical and clinical results for ZGN-1061 and its other product candidates, which may not support further development and marketing approval, actions of regulatory agencies, which may affect the initiation, timing and progress of preclinical studies and clinical trials of its product candidates, Zafgen's ability to obtain, maintain and protect its intellectual property, Zafgen's ability to enforce its patents against infringers and defend its patent portfolio against challenges from third parties, competition from others developing products for similar uses, Zafgen's ability to manage operating expenses, Zafgen's ability to obtain additional funding to support its business activities and establish and maintain strategic business alliances and new business initiatives when needed, Zafgen's dependence on third parties for development, manufacture, marketing, sales and distribution of product candidates, the outcome of litigation, and unexpected expenditures, as well as those risks more fully discussed in the section entitled "Risk Factors" in Zafgen's most recent Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission, as well as discussions of potential risks, uncertainties, and other important factors in Zafgen's subsequent filings with the Securities and Exchange Commission. In addition, any forward-looking statements represent Zafgen's views only as of today and should not be relied upon as representing its views as of any subsequent date. Zafgen explicitly disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or otherwise.

Media/Investor Relations Contact:

Zafgen, Inc.
Patricia Allen
Chief Financial Officer
617-648-9792

Argot Partners
Investor Relations
Laura Perry
212-600-1902
laura@argotpartners.com

Spectrum Science
Media Relations
Michelle Strier
202-587-2582
mstrier@spectrumscience.com