Preclinical Data Demonstrate Anti-Siglec-15 Treatment Reduced Bone Loss and Enhanced Bone Quality in Mice with Moderate-to-Severe Osteogenesis Imperfecta (OI)

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Data Presented at the 2023 American Society for Bone and Mineral Research (ASBMR) Annual Meeting

BELTSVILLE, Md., Oct. 17, 2023 (GLOBE NEWSWIRE) -- NextCure, Inc. (Nasdaq: NXTC), a clinical-stage biopharmaceutical company committed to discovering and developing novel, first-in-class immunomedicines to treat cancer and other immune-related diseases, today announced the presentation of new preclinical data demonstrating that treatment with NC605, a novel anti-Siglec-15 (S15) antibody, reduced bone loss and enhanced bone quality in mice with osteogenesis imperfecta (OI), at the 2023 American Society for Bone and Mineral Research (ASBMR) annual meeting. These results support development of NC605 as a potential highly effective treatment for osteogenesis imperfecta, a rare disease in which bones easily fracture.

Osteogenesis imperfecta is a rare disorder that results in high bone turnover, abnormal bone formation, bone fragility and recurrent fractures. There is no cure for OI and current anti-resorptive treatments increase bone mineral density (BMD) primarily by inhibiting bone loss; however, these agents also inhibit bone formation. Unlike anti-resorptive therapies, NC605 enhances osteoblast recruitment, resulting in overall enhanced bone quality. In preclinical testing, NC605 has been shown to prevent bone loss by inhibiting osteoclast maturation and bone resorption by binding S15, which is expressed on the cell surface of immature osteoclasts and upregulated in differentiated osteoclasts.

NextCure identified NC605 while screening S15 antibodies for anticancer properties. Further characterization revealed that the S15 antibodies without anticancer properties had the ability to inhibit osteoclast maturation and thus may have use in treating bone disease.

The number of new bone fractures and bone quality were assessed and compared to control animals and to female OI mice (*oim*) from a prior study. Key findings include:

- Treatment with the surrogate antibody, NP159 prevented new bone fractures in 90% of male *oim* compared to 85% of female *oim* seen earlier. All control mice had one or more new bone fractures.
- High resolution microCT showed decreased trabecular bone separation with NP159 treatment in both *oim* males and females (p=0.05).
- Cortical bone porosity, a measure of mechanical strength of bone, was normal in the treated male mice, in contrast with females who showed increased porosity.
- There were no changes in the overall bone mineral density for male or female mice.
- Bone stiffness increased in both male and female *oim*.
- Fourier Transform Infrared (FTIR-I) readouts, a measure of bone quality, in treated females showed a normalization of mineral: matrix ratio, increased acid phosphate and decreased collagen maturity. Interestingly and in contrast, the males showed no similar changes.

“We previously demonstrated that the surrogate antibody, NP159 (murine mAb parent to NC605) improved bone quality and decreased fractures in female *oim*. To address potential differences in therapeutic effects given sexual dimorphism seen with OI, we have now extended the study to evaluate and demonstrate efficacy in male *oim*,” said Solomon Langermann, Ph.D., NextCure’s chief scientific officer. “Given the unique properties of NC605 to improve bone quality, and reduce fractures, coupled with its safe profile, NC605 holds great promise as a potential transformative agent needed to provide treatment for OI patients throughout their life, including both female and male patients.”

The data were generated in collaboration with Dr. Cathleen Raggio, Hospital for Special Surgery, New York. The data were presented in a poster presentation by Dr. Raggio at the 2023 American Society for Bone and Mineral Research.

Title: Sexual Dimorphism in Treatment Effect of Anti-Siglec 15 in Adult Mice with Moderate-to-Severe Osteogenesis Imperfecta
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About NextCure, Inc.
NextCure is a clinical-stage biopharmaceutical company committed to discovering and developing novel, first-in-class immunomedicines to treat cancer and other immune-related diseases. Through our proprietary FIND-IO™ platform, we study various immune cells to discover and understand targets and structural components of immune cells and their functional impact in disease in order to develop immunomedicines. Our focus is to bring hope and new treatments to patients who do not respond to current cancer therapies, patients whose cancer progresses despite treatment and patients with cancer types not adequately addressed by available therapies. http://www.nextcure.com

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Statements made in this press release that are not historical facts are forward-looking statements. Words such as “expects,” “believes,” “intends,” “hope,” “forward” and similar expressions are intended to identify forward-looking statements. Examples of forward-looking statements in this press release include, among others, statements about NextCure’s plans, objectives, and intentions with respect to the discovery of immunomedicine targets and the discovery and development of immunomedicines. Forward-looking statements involve substantial risks and uncertainties that could cause

actual results to differ materially from those projected in any forward-looking statement. Such risks and uncertainties include, among others: our limited operating history and no products approved for commercial sale; our history of significant losses; our need to obtain additional financing; risks related to clinical development, including that early clinical data may not be confirmed by later clinical results; risks that pre-clinical research may not be confirmed in clinical trials; risks related to marketing approval and commercialization; and the unproven approach to the discovery and development of product candidates based on our FIND-IO platform. More detailed information on these and additional factors that could affect NextCure's actual results are described in NextCure's filings with the Securities and Exchange Commission (the "SEC"), including NextCure's most recent Form 10-K and subsequent Form 10-Q. You should not place undue reliance on any forward-looking statements. NextCure assumes no obligation to update any forward-looking statements, even if expectations change.

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