Vertex Presents Longer-Term Data at the 2025 European Hematology Association (EHA) Congress Demonstrating Durability of CASGEVY® and Provides Update on Expanding Global Access to CASGEVY

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- Data from longer-term follow-up of patients in clinical trials further demonstrate durability of the transformative benefits of CASGEVY® -

- Multiple reimbursement agreements secured, expanding access to CASGEVY to more patients around the world -

LONDON - June 12, 2025 - Vertex Pharmaceuticals (Nasdaq: VRTX) today announced positive longer-term data for CASGEVY® (exagamglogene autotemcel) from global clinical trials in people with severe sickle cell disease (SCD) or transfusion-dependent beta thalassemia (TDT). The results, presented at the European Hematology Association (EHA) Congress, continue to demonstrate the transformative, durable clinical benefits of CASGEVY. The longest follow up in SCD patients now extends more than 5.5 years and in TDT patients more than 6 years, with a mean of 39.4 months and 43.5 months, respectively. CASGEVY is the first and only approved CRISPR/Cas9 gene-edited therapy.

"These longer-term data further confirm that CASGEVY can provide significant and durable clinical benefits to eligible people living with sickle cell disease or transfusion-dependent beta thalassemia," said Franco Locatelli, M.D., Ph.D., Professor of Pediatrics at the Catholic University of the Sacred Heart of Rome, Director of the Department of Pediatric Hematology and Oncology at Bambino Gesù Children's Hospital, Chair of Vertex's TDT Program Steering Committee, and Presenting Author of the CASGEVY TDT clinical data at EHA. "Given the urgent and unmet need for new transformative treatments for these diseases, I am delighted by the strong progress that has been made to bring CASGEVY to eligible patients in the real world."

New longer-term follow-up data presented from the CASGEVY trials

- In SCD, 43/45 (95.6%) evaluable patients (those with at least 16 months of follow-up) were free from vaso-occlusive crises (VOCs) for at least 12 consecutive months (VF12) in CLIMB-121 and CLIMB-131 combined (95% CI: 84.9%, 99.5%). The mean duration of VOC-free was 35.0 months (range 14.4 to 66.2 months).
    - All evaluable patients (45/45 [100%]) achieved freedom from in-patient hospitalization for severe VOCs for at least 12 consecutive months (HF12) in CLIMB-121 and CLIMB-131 combined (95% CI: 92.1%, 100%), with a mean hospitalization-free of 36.1 months (range 14.5 to 66.2 months).
- In TDT, 54/55 (98.2%) evaluable patients (those with at least 16 months of follow-up) achieved transfusion-independence for at least 12 consecutive months with a weighted average hemoglobin (Hb) of at least 9 g/dL (TI12) in CLIMB-111 and CLIMB-131 combined (95% CI: 90.3%, 100%). The mean duration of transfusion independence was 40.5 months (range 13.6 to 70.8 months).
    - The one evaluable patient who did not achieve TI12 has been transfusion free for 14.8 months.
    - Iron removal therapy has been stopped for more than 6 months in 39/56 (69.6%) treated patients following infusion with CASGEVY, with sustained improvement in ferritin and liver iron content, suggesting that CASGEVY has the potential to correct ineffective erythropoiesis.
- Patients continue to demonstrate stable levels of fetal hemoglobin (HbF) and allelic editing.
- The safety profile of CASGEVY continues to be generally consistent with myeloablative conditioning with busulfan and autologous hematopoietic stem cell transplant.

Progress in bringing CASGEVY to patients

Through reimbursement agreements, Vertex has secured access for eligible SCD or TDT patients in multiple countries including Austria, Bahrain, England, the Kingdom of Saudi Arabia, Northern Ireland, Scotland, the United Arab Emirates, the United States and Wales. Vertex is continuing to work with government and reimbursement authorities globally to secure sustainable access for additional eligible patients.

About Sickle Cell Disease (SCD)

SCD is a debilitating, progressive, life-shortening genetic disease. SCD patients report health-related quality of life scores well below the general population and significant health care resource utilization. SCD affects the red blood cells, which are essential for carrying oxygen to all organs and tissues of the body. SCD causes severe pain, organ damage and shortened life span due to misshapen or "sickled" red blood cells. The clinical hallmark of SCD is vaso-occlusive crises (VOCs), which are caused by

blockages of blood vessels by sickled red blood cells and result in severe and debilitating pain that can happen anywhere in the body at any time. SCD requires lifelong treatment and significant use of health care resources, and ultimately results in reduced life expectancy, decreased quality of life and reduced lifetime earnings and productivity. In Europe, the mean age of death for patients living with SCD is around 40 years.

About Transfusion-Dependent Beta Thalassemia (TDT)

TDT is a serious, life-threatening genetic disease. TDT patients report health-related quality of life scores below the general population and significant health care resource utilization. TDT requires frequent blood transfusions and iron chelation therapy throughout a person's life. Due to anemia, patients living with TDT may experience fatigue and shortness of breath, and infants may develop failure to thrive, jaundice and feeding problems. Complications of TDT can also include an enlarged spleen, liver and/or heart, misshapen bones and delayed puberty. TDT requires lifelong treatment and significant use of health care resources, and ultimately results in reduced life expectancy, decreased quality of life and reduced lifetime earnings and productivity. In Europe, the mean age of death for patients living with TDT is 50-55 years.

About CASGEVY® (exagamglogene autotemcel)

CASGEVY® is a non-viral, *ex vivo* CRISPR/Cas9 gene-edited cell therapy for eligible patients with SCD or TDT, in which a patient's own hematopoietic stem and progenitor cells are edited at the erythroid specific enhancer region of the *BCL11A* gene through a precise double-strand break. This edit results in the production of high levels of fetal hemoglobin (HbF; hemoglobin F) in red blood cells. HbF is the form of the oxygen-carrying hemoglobin that is naturally present during fetal development, which then switches to the adult form of hemoglobin after birth. CASGEVY has been shown to reduce or eliminate VOCs for patients with SCD and transfusion requirements for patients with TDT.

CASGEVY is approved for eligible SCD and TDT patients 12 years and older by multiple regulatory bodies around the world.

About the CLIMB Trials

The ongoing Phase 1/2/3 open-label trials, CLIMB-111 and CLIMB-121, are designed to assess the safety and efficacy of a single dose of CASGEVY in patients ages 12 to 35 years with TDT or with SCD and recurrent VOCs. The trials are closed for enrollment. Patients will be followed for approximately two years after CASGEVY infusion in these trials. Each patient will be asked to participate in the ongoing long-term, open-label trial, CLIMB-131. CLIMB-131 is designed to evaluate the long-term safety and efficacy of CASGEVY in patients who received CASGEVY, including those in other CLIMB trials. The trial is designed to follow patients for up to 15 years after CASGEVY infusion.

About Vertex

Vertex is a global biotechnology company that invests in scientific innovation to create transformative medicines for people with serious diseases and conditions. The company has approved therapies for cystic fibrosis, sickle cell disease, transfusion-dependent beta thalassemia and acute pain, and it continues to advance clinical and research programs in these areas. Vertex also has a robust clinical pipeline of investigational therapies across a range of modalities in other serious diseases where it has deep insight into causal human biology, including neuropathic pain, APOL1-mediated kidney disease, IgA nephropathy, primary membranous nephropathy, autosomal dominant polycystic kidney disease, type 1 diabetes and myotonic dystrophy type 1.

Vertex was founded in 1989 and has its global headquarters in Boston, with international headquarters in London. Additionally, the company has research and development sites and commercial offices in North America, Europe, Australia, Latin America and the Middle East. Vertex is consistently recognized as one of the industry's top places to work, including 15 consecutive years on Science magazine's Top Employers list and one of Fortune's 100 Best Companies to Work For. For company updates and to learn more about Vertex's history of innovation, visit www.vrtx.com/en-global.

Vertex Special Note Regarding Forward-Looking Statements

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, the statements by Franco Locatelli, M.D., Ph.D., in this press release, and statements regarding expectations for the anticipated transformative, durable clinical benefits of CASGEVY, plans to continue working with government and reimbursement authorities globally to secure sustainable access for patients, and our plans for and design of the CLIMB studies. While we believe the forward-looking statements contained in this press release are accurate, these forward-looking statements represent the company's beliefs only as of the date of this press release and there are a number of risks and uncertainties that could cause actual events or results to differ materially from those expressed or implied by such forward-looking statements. Those risks and uncertainties include, among other things, that eligible patient access to CASGEVY may not be achieved on the anticipated timeline, or at all, that data from the company's development programs may not support registration or further development of its compounds due to safety, efficacy, and other reasons, and other risks listed under the heading "Risk Factors" in Vertex's most recent annual report and subsequent quarterly reports filed with the Securities and Exchange Commission at www.sec.gov and available through the company's website at www.vrtx.com. You should not place undue reliance on these statements, or the scientific data presented. Vertex disclaims any obligation to update the information contained in this press release as new information becomes available.

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