



Phase 2 Trials Demonstrating Antithrombotic Effect of Two Novel Regeneron Factor XI Antibodies Presented at American Heart Association Scientific Sessions and Published in The Lancet

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Proof-of-concept trials confirm robust anti-clotting effects for Regeneron’s two mechanistically-distinct antibodies against factor XI, in patients undergoing total knee replacement

Trial results consistent with prospective design of these antibodies to have distinct profiles – one to provide stronger anticoagulation and the other to have a lower risk of bleeding – potentially allowing physicians to tailor anticoagulant therapy for patients with different risk profiles

Phase 3 trials in patients undergoing total knee replacement initiated as part of broad factor XI program evaluating the two antibodies across a range of patient populations and clinical settings

Regeneron to host virtual ‘Regeneron Roundtable’ investor event to discuss its factor XI development program on Monday, November 10 at 8:30 a.m. ET

TARRYTOWN, N.Y., Nov. 08, 2025 (GLOBE NEWSWIRE) -- Regeneron Pharmaceuticals, Inc. (NASDAQ: REGN) today announced detailed positive Phase 2 trial results evaluating two novel investigational factor XI antibodies – REGN7508^{Cat} (targeting the catalytic domain) and REGN9933^{A2} (targeting the A2 domain) – for the prevention of blood clotting in patients undergoing total knee replacement surgery. The proof-of-concept data from a late-breaking abstract were presented for the first time at the American Heart Association’s (AHA) Scientific Sessions 2025 in New Orleans and simultaneously [published](#) in *The Lancet*. The two antibodies were prospectively designed to be mechanistically distinct – with one designed to provide stronger anticoagulation and the other offering a lower risk of bleeding – potentially allowing physicians to tailor anticoagulation therapy for patients with different risk profiles. In these trials, both antibodies demonstrated robust but distinct anti-clotting effects consistent with their design intent, with no clinically relevant bleeding.

“The risk of bleeding with current anticoagulants prevents many patients from starting or staying on treatment, leaving them vulnerable to potentially life-threatening blood clots,” said Jeffrey I. Weitz, Distinguished University Professor at McMaster University, and lead study author. “These positive Phase 2 results confirm the role of factor XI in postoperative venous thromboembolism and suggest that these two distinct antibodies may enable flexibility for physicians to tailor anticoagulant therapy for patients with different risk profiles. Moreover, the findings with REGN9933^{A2} demonstrate for the first time that factor XIIa-driven activation of factor XI contributes to postoperative venous thromboembolism.”

Due to bleeding concerns, current standard-of-care anticoagulants are underutilized, and current oral agents are often associated with poor adherence. REGN7508^{Cat} is designed to maximize anticoagulant activity while minimizing bleeding risk, and REGN9933^{A2} is designed as an additional potential option for patients with the highest bleeding risk who would otherwise not be candidates for currently available anticoagulants.

The results include data from two open-label, active-controlled Phase 2 trials evaluating a single intravenous (IV) dose of REGN7508^{Cat} and a single IV dose of REGN9933^{A2} for the prevention of asymptomatic or symptomatic deep venous thromboembolism (VTE) after unilateral total knee arthroplasty. ROXI-VTE-I evaluated REGN9933^{A2} (300 mg IV) compared to daily enoxaparin or twice-daily apixaban, and ROXI-VTE-II evaluated REGN7508^{Cat} (250 mg IV) compared to daily enoxaparin.

As published and presented, the results showed that both REGN7508^{Cat} and REGN9933^{A2} demonstrated clear efficacy for VTE prevention following total knee replacement surgery. Historical trial data indicate that about half of patients (48%, 43 out of 89) treated with placebo in this setting develop VTE.¹ Both Regeneron antibodies markedly reduced VTE rates compared to these levels, and as described in a previously [released](#) pooled analysis of these trials, REGN7508^{Cat} decreased VTE rates to 7.1% (which was numerically superior to apixaban VTE rate of 12.4%), while REGN9933^{A2} decreased VTE rates to 17.2% (which was numerically superior to the enoxaparin rate of 20.6%). The observed VTE rates for REGN9933^{A2} indicate that activation of factor XI by factor XIIa contributes to the pathogenesis of postoperative VTE, even as other mechanisms of factor XI activation remain intact.

VTE rates at venogram following surgery for each trial and in the pooled analysis:

ROXI-VTE-I	REGN9933 ^{A2}	enoxaparin	apixaban
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Patients with VTE events	17.2% (20 of 116 patients)	22.2% (26 of 117 patients)	12.4% (14 of 113 patients)
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ROXI-VTE-II	REGN7508^{Cat}	enoxaparin
Patients with VTE events	7.1% (8 of 113 patients)	17.2% (10 of 58 patients)

Pooled Analysis	REGN7508^{Cat}	REGN9933^{A2}	enoxaparin	apixaban
Patients with VTE events	7.1% (8 of 113 patients)	17.2% (20 of 116 patients)	20.6% (36 of 175 patients)	12.4% (14 of 113 patients)
VTE risk differences (95% confidence interval [CI])	<ul style="list-style-type: none"> • REGN7508^{Cat} vs. enoxaparin: -13.6% (CI: -21.1% to -6.0%)* • REGN7508^{Cat} vs. apixaban: -5.3% (CI: -13.2% to 2.4%) • REGN9933^{A2} vs. enoxaparin: -3.5% (CI: -12.7% to 5.7%) 			

*Superior

There was no major bleeding (including surgical site bleeding) or clinically relevant non-major bleeding in any arm; the only treatment-related adverse event (AE) in any arm was one case of minimal bleeding (contusion) reported in the enoxaparin arm of ROXI-VTE-I. Across both trials, AE rates were generally similar among the treatment arms (ROXI-VTE-I: 22.0% for REGN9933^{A2}, 20.8% for enoxaparin, 24.8% for apixaban; ROXI-VTE-II: 21.7% for REGN7508^{Cat} and 28.8% for enoxaparin). The most common treatment-related AE was postoperative anemia, which was reported in 10% of patients in all the treatment arms in ROXI-VTE-I (7% for REGN9933^{A2}, 9% for enoxaparin, and 13% for apixaban) and in 3% of all patients in ROXI-VTE-II (5% for REGN7508^{Cat} and none for enoxaparin).

There were no treatment-related serious AEs in any arm. There were also no AEs in any arm leading to trial discontinuation or dose interruption/modification, and no AEs of special interest or deaths in these trials.

The safety and efficacy of REGN7508^{Cat} and REGN9933^{A2} have not been evaluated by any regulatory authority.

About the 'Regeneron Roundtable' Investor Event

Regeneron will host a virtual investor event to discuss its factor XI program on Monday, November 10 at 8:30 a.m. ET. This is the first webcast in a new investor event series called the 'Regeneron Roundtable,' intended to highlight programs from the company's innovative investigational pipeline.

Links to the webcast and to register via telephone may be accessed from the 'Investors and Media' page of Regeneron's website at <https://investor.regeneron.com/events-and-presentations>. Upon registration, all telephone participants will receive a confirmation email detailing how to join the conference call, including the dial-in number along with a unique passcode and registrant ID that can be used to access the call. A replay of the conference call and webcast will be archived on the company's website for at least 30 days.

About ROXI-VTE-I and ROXI-VTE-II

The two open-label, active-controlled Phase 2 trials (ROXI-VTE-I and ROXI-VTE-II) were conducted under similar protocols to evaluate REGN7508^{Cat} and REGN9933^{A2} for the prevention of asymptomatic (detected by venogram between day 8 and 12) or symptomatic venous thromboembolism (VTE) after unilateral total knee arthroplasty. In ROXI-VTE-I, patients were randomized to receive either a single intravenous (IV) 300 mg dose of REGN9933^{A2}, daily enoxaparin, or twice daily doses of apixaban until the time of venography. In ROXI-VTE-II, patients were randomized to receive a single IV 250 mg dose of REGN7508^{Cat} or daily enoxaparin until the time of venography. In contrast to trials evaluating other factor XI antibodies, administration of all treatments began 12 to 24 hours after surgery (generally one day post-operation) in both trials, consistent with the approved administration of the active comparators.

About Regeneron's Factor XI Clinical Development Program

Regeneron is advancing a robust factor XI program to assess two mechanistically-distinct antibodies, REGN7508^{Cat} and/or REGN9933^{A2}, across a variety of indications. These two antibodies were prospectively designed to have distinct profiles – with one designed to provide stronger anticoagulation and the other offering a lower risk of bleeding – potentially allowing physicians to tailor anticoagulation therapy for patients with different risk profiles. In trials that have been reported to date, both antibodies have demonstrated robust but distinct anti-clotting effects consistent with their design intent, with no clinically relevant bleeding.

Two Phase 3 trials are underway to further evaluate REGN7508^{Cat} for the prevention of VTE after total knee replacement surgery: [ROXI-APEX](#) (compared to apixaban and enoxaparin) and [ROXI-ASPEN](#) (compared to aspirin). A Phase 2 trial, [ROXI-ATLAS](#), has also been initiated to evaluate the safety of REGN7508^{Cat} and REGN9933^{A2} compared to apixaban in patients with atrial fibrillation. In 2026, Regeneron plans to initiate Phase 3 trials for stroke prevention in atrial fibrillation as well as additional indications, including cancer-associated thrombosis, peripherally inserted central catheter (PICC)-associated thrombosis, and peripheral arterial disease.

About Regeneron's VelocImmune® Technology

Regeneron's *VelocImmune* technology utilizes a proprietary genetically engineered mouse platform endowed with a genetically humanized immune system to produce optimized fully human antibodies. When Regeneron's co-Founder, President and Chief Scientific Officer George D. Yancopoulos was a graduate student with his mentor Frederick W. Alt in 1985, they were the first to [envision](#) making such a genetically humanized mouse, and Regeneron has spent decades inventing and developing *VelocImmune* and related *VelociSuite*® technologies. Dr. Yancopoulos and his team have used *VelocImmune* technology to create a substantial proportion of all original, FDA-approved fully human monoclonal antibodies. This includes Dupixent® (dupilumab), Libtayo® (cemiplimab-rwlc), Praluent® (alirocumab), Kevzara®, Evkeeza® (evinacumab-dgnb), Inmazeb® (atoltivimab, maftivimab and odesivimab-ebgn) and Veopoz® (pozelimab-bbfg). In addition, REGEN-COV® (casirivimab and imdevimab) had been authorized by the FDA during the COVID-19 pandemic until 2024.

About Regeneron

Regeneron (NASDAQ: REGN) is a leading biotechnology company that invents, develops and commercializes life-transforming medicines for people with serious diseases. Founded and led by physician-scientists, our unique ability to repeatedly and consistently translate science into medicine has led to numerous approved treatments and product candidates in development, most of which were homegrown in our laboratories. Our medicines and pipeline are designed to help patients with eye diseases, allergic and inflammatory diseases, cancer, cardiovascular and metabolic diseases, neurological diseases, hematologic conditions, infectious diseases, and rare diseases.

Regeneron pushes the boundaries of scientific discovery and accelerates drug development using our proprietary technologies, such as *VelociSuite*®, which produces optimized fully human antibodies and new classes of bispecific antibodies. We are shaping the next frontier of medicine with data-powered insights from the Regeneron Genetics Center® and pioneering genetic medicine platforms, enabling us to identify innovative targets and complementary approaches to potentially treat or cure diseases.

For more information, please visit www.Regeneron.com or follow Regeneron on [LinkedIn](#), [Instagram](#), [Facebook](#) or [X](#).

Forward-Looking Statements and Use of Digital Media

This press release includes forward-looking statements that involve risks and uncertainties relating to future events and the future performance of Regeneron Pharmaceuticals, Inc. ("Regeneron" or the "Company"), and actual events or results may differ materially from these forward-looking statements. Words such as "anticipate," "expect," "intend," "plan," "believe," "seek," "estimate," variations of such words, and similar expressions are intended to identify such forward-looking statements, although not all forward-looking statements contain these identifying words. These statements concern, and these risks and uncertainties include, among others, the nature, timing, and possible success and therapeutic applications of products marketed or otherwise commercialized by Regeneron and/or its collaborators or licensees (collectively, "Regeneron's Products") and product candidates being developed by Regeneron and/or its collaborators or licensees (collectively, "Regeneron's Product Candidates") and research and clinical programs now underway or planned, including without limitation REGN7508^{Cat} (a factor XI antibody targeting the catalytic domain) and REGN9933^{A2} (a factor XI antibody targeting the A2 domain) (together, the "Factor XI Product Candidates"); the likelihood, timing, and scope of possible regulatory approval and commercial launch of Regeneron's Product Candidates and new indications for Regeneron's Products, including any of the Factor XI Product Candidates for the prevention of blood clotting in patients undergoing total knee replacement surgery; uncertainty of the utilization, market acceptance, and commercial success of Regeneron's Products and Regeneron's Product Candidates and the impact of studies (whether conducted by Regeneron or others and whether mandated or voluntary), including the studies discussed or referenced in this press release, on any of the foregoing or any potential regulatory approval of Regeneron's Products and Regeneron's Product Candidates (such as the Factor XI Product Candidates); the ability of Regeneron's collaborators, licensees, suppliers, or other third parties (as applicable) to perform manufacturing, filling, finishing, packaging, labeling, distribution, and other steps related to Regeneron's Products and Regeneron's Product Candidates; the ability of Regeneron to manage supply chains for multiple products and product candidates and risks associated with tariffs and other trade restrictions; safety issues resulting from the administration of Regeneron's Products and Regeneron's Product Candidates (such as the Factor XI Product Candidates) in patients, including serious complications or side effects in connection with the use of Regeneron's Products and Regeneron's Product Candidates in clinical trials; determinations by regulatory and administrative governmental authorities which may delay or restrict Regeneron's ability to continue to develop or commercialize Regeneron's Products and Regeneron's Product Candidates; ongoing regulatory obligations and oversight impacting Regeneron's Products, research and clinical programs, and business, including those relating to patient privacy; the availability and extent of reimbursement or copay assistance for Regeneron's Products from third-party payors and other third parties, including private payor healthcare and insurance programs, health maintenance organizations, pharmacy benefit management companies, and government programs such as Medicare and Medicaid; coverage and reimbursement determinations by such payors and other third parties and new policies and procedures adopted by such payors and other third parties; changes to drug pricing regulations and requirements and Regeneron's pricing strategy; other changes in laws, regulations, and policies affecting the healthcare industry; competing drugs and product candidates that may be superior to, or

more cost effective than, Regeneron's Products and Regeneron's Product Candidates (including biosimilar versions of Regeneron's Products); the extent to which the results from the research and development programs conducted by Regeneron and/or its collaborators or licensees may be replicated in other studies and/or lead to advancement of product candidates to clinical trials, therapeutic applications, or regulatory approval; unanticipated expenses; the costs of developing, producing, and selling products; the ability of Regeneron to meet any of its financial projections or guidance and changes to the assumptions underlying those projections or guidance; the potential for any license, collaboration, or supply agreement, including Regeneron's agreements with Sanofi and Bayer (or their respective affiliated companies, as applicable), to be cancelled or terminated; the impact of public health outbreaks, epidemics, or pandemics on Regeneron's business; and risks associated with litigation and other proceedings and government investigations relating to the Company and/or its operations (including the pending civil proceedings initiated or joined by the U.S. Department of Justice and the U.S. Attorney's Office for the District of Massachusetts), risks associated with intellectual property of other parties and pending or future litigation relating thereto (including without limitation the patent litigation and other related proceedings relating to EYLEA® (afibercept) Injection), the ultimate outcome of any such proceedings and investigations, and the impact any of the foregoing may have on Regeneron's business, prospects, operating results, and financial condition. A more complete description of these and other material risks can be found in Regeneron's filings with the U.S. Securities and Exchange Commission, including its Form 10-K for the year ended December 31, 2024 and its Form 10-Q for the quarterly period ended September 30, 2025. Any forward-looking statements are made based on management's current beliefs and judgment, and the reader is cautioned not to rely on any forward-looking statements made by Regeneron. Regeneron does not undertake any obligation to update (publicly or otherwise) any forward-looking statement, including without limitation any financial projection or guidance, whether as a result of new information, future events, or otherwise.

Regeneron uses its media and investor relations website and social media outlets to publish important information about the Company, including information that may be deemed material to investors. Financial and other information about Regeneron is routinely posted and is accessible on Regeneron's media and investor relations website (<https://investor.regeneron.com>) and its LinkedIn page (<https://www.linkedin.com/company/regeneron-pharmaceuticals>).

Contacts:

Media Relations

Julie Block

Tel: +1 914-826-7083

julie.block@regeneron.com

Investor Relations

Mark Hudson

Tel: +1 914-847-3482

mark.hudson@regeneron.com

¹ Fuji T, Fujita S, Tachibana S, Kawai Y. A dose-ranging study evaluating the oral factor Xa inhibitor edoxaban for the prevention of venous thromboembolism in patients undergoing total knee arthroplasty. J Thromb Haemost. 2010 Nov;8(11):2458-68. doi: 10.1111/j.1538-7836.2010.04021.x. PMID: 20723033.

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Source: Regeneron Pharmaceuticals, Inc.