Regeneron Announces Positive Phase 2 Data Evaluating Fel d 1 Antibody Cocktail in Cat-allergic Patients with Mild Asthma

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Single administration of novel antibody cocktail controlled patients' allergic response to cat allergen, preventing early asthma reactions for the duration of the 3-month trial

Patients experienced significant improvements in lung function and cat allergen tolerance from the first assessment at week 1

Results presented at the virtual 2021 AAAAI Annual Meeting

Regeneron Pharmaceuticals, Inc. (NASDAQ: REGN) today announced detailed results from a Phase 2 proof-of-concept trial evaluating the investigational antibody cocktail REGN1908-1909 in cat-allergic patients with mild asthma. The trial met the primary endpoint of preventing early asthma reactions (EAR, defined as a ≥20% decline in forced expiratory volume over one second [FEV_1]). The trial also met key secondary endpoints, including improved lung function and an increased amount of cat allergen that patients could tolerate following a single dose of treatment, from as early as the first assessment conducted at week 1. The results were shared in an oral presentation at the virtual 2021 American Academy of Allergy, Asthma and Immunology (AAAAI) Annual Meeting.

"Cat allergy is one of the most common allergic respiratory diseases, impacting millions of people who must alter their lives by withdrawing from certain social situations, occupations and relationships. For those with co-existing asthma, cat allergies can trigger exacerbations that, although rare, can lead to hospitalization," said Frederic J. de Blay, M.D., Professor of Pulmonology and Allergist at the Strasbourg University and principal investigator of the trial performed at ALYATEC. "These encouraging trial results showed that a single dose of REGN1908-1909 prevented early asthma reactions in cat-allergic patients with mild asthma rapidly and durably – as early as one week after treatment and up to three months."

Cat allergy is primarily caused by exposure to Fel d 1, the major allergen in cat dander produced by all cats. Fel d 1 is spread to surrounding environments through airborne particles that adhere to clothing, carpets and furniture. Patients typically experience rapid onset of mild to severe symptoms including nasal congestion, itchy and watery eyes, chest tightening and wheezing. Currently, cat-induced allergic rhinitis is treated with antihistamines and intranasal corticosteroids with moderate efficacy. Allergen-specific immunotherapy (otherwise known as allergy shots) takes 12-24 months to see clinical benefit and is contraindicated for patients with severe or uncontrolled asthma. Importantly, the association between cat allergy and asthma is significant, as more than 50% of cat-allergic patients have co-existing asthma. Although rare, cat allergy in these patients can potentially trigger life-threatening asthma attacks leading to hospitalization.

REGN1908-1909 is a novel cocktail of two fully-human monoclonal IgG antibodies, designed to specifically bind and block the Fel d 1 allergen, thus preventing it from binding and triggering the endogenous antibodies that cause allergies (i.e., Immunoglobulin E, or IgE, antibodies). REGN1908-1909 was invented using Regeneron's proprietary *VelocImmune*® technology.

"These data add further evidence supporting a completely new way to combat common allergies," said George D. Yancopoulos, M.D., Ph.D., President and Chief Scientific Officer at Regeneron. "Under this new approach pioneered by Regeneron, patients are given antibodies that provide immediate and durable protection against offending allergens, a type of passive immunity. We have developed and are currently studying several allergen-specific antibodies, including REGN1908-1909 for cat allergy and a Phase 3 trial investigating REGN5713-5715 in patients with birch allergy."

The Phase 2 randomized, double-blind proof-of-concept trial enrolled 56 cat-allergic patients with mild asthma who received a single dose of REGN1908-1909 600 mg or placebo delivered subcutaneously. This was followed by a 12-week assessment period during which patients underwent a 4-hour Cat Allergen Challenge (CAC) at weeks 1, 4, 8 and 12 in an environmental exposure unit (EEU) where they were exposed to cat allergen and monitored for allergic reactions. In order to establish a baseline, patients were also exposed to the EEU 1 week prior to receiving either REGN1908-1909 or placebo.

Patients who took REGN1908-1909 experienced significant improvements during the Cat Allergen Challenge compared to those on placebo, which included:

- **Reduced time to EAR for up to 3 months:** REGN1908-1909 significantly extended the median time before patients experienced an early asthma reaction compared to placebo at all time points assessed, including at week 1 (>4 hours REGN1908-1909 vs. 51 minutes placebo, p=0.0083, the primary endpoint).
- **Improved ability to breathe:** REGN1908-1909 prevented 68% of the lung function decline observed upon cat allergen exposure, compared to 23% with placebo (measured by comparing the lung function decline induced by cat allergen exposure pre-treatment, with that seen 1 week following treatment; similar benefit was seen throughout the 3-month post-treatment assessment period).
- **Improved cat allergen tolerance**: Patients taking REGN1908-1909 were able to tolerate a three-fold higher allergen quantity from baseline without experiencing an early asthma reaction compared to placebo (60 nanograms [ng] REGN1908-1909 vs. 20 ng placebo, p=0.003).

Adverse events (AEs) occurred in 76% of patients who received REGN1908-1909 and 78% of patients who received placebo. AEs more commonly

observed with those receiving REGN1908-1909 included injection site reactions (7% for REGN1908-1909, 4% for placebo).

The use of REGN1908-1909 to treat cat-allergic patients with mild asthma is investigational and its efficacy and safety have not been fully evaluated by any regulatory authority.

About the Phase 2 Trial
The randomized, double-blind, parallel-group, single-dose proof-of-concept trial enrolled 56 cat-allergic patients with mild asthma who were not living with a cat. The trial consisted of up to a 12-week screening period followed by 1:1 randomization on day 1 to receive 600 mg REGN1908-1909 or placebo administered subcutaneously, followed by a 12-week assessment period and a 4-week safety follow-up period. During the screening period, patients underwent a 2-hour CAC in an EEU after initially being evaluated in a placebo challenge. Patients performed spirometry every 10 minutes during the EEU CAC until they experienced an EAR, or bronchoconstriction when their FEV_1 was reduced by ≥20%. Following the CAC, patients were monitored for 6 hours and those meeting eligibility requirements were then randomized to receive a single 600 mg subcutaneous dose of REGN1908-1909 or placebo, and returned to the trial site to undergo a 4-hour CAC in the EEU (plus a 6-hour observation period) at weeks 1, 4, 8 and 12 following treatment administration.

The primary endpoint was prevention of EAR, as measured by FEV_1, compared to placebo 1 week after treatment, following the CAC. Key secondary endpoints included the prevention of EAR on weeks 4, 8 and 12; change in FEV_1 on weeks 1, 4, 8 and 12; and change in cat allergen quantity, as experienced by patients during exposure on weeks 1, 4, 8 and 12.

About Regeneron's *VelocImmune*® Technology
REGN1908-1909 was invented using Regeneron's *VelocImmune* technology that 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 multiple antibodies including Dupixent® (dupilumab), Libtayo®, Praluent® (alirocumab), Kevzara® (sarilumab), Evkeeza ™(evinacumab-dgnb), Inmazeb ™(atoltivimab, maftivimab, and odesivimab-ebgn) and Regeneron's antibody cocktail for COVID-19, which was recently granted Emergency Use Authorization (EUA) in the U.S.

About Regeneron
Regeneron (NASDAQ: REGN) is a leading biotechnology company that invents life-transforming medicines for people with serious diseases. Founded and led for over 30 years by physician-scientists, our unique ability to repeatedly and consistently translate science into medicine has led to nine FDA-approved treatments and numerous product candidates in development, almost all 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, pain, infectious diseases and rare diseases.

Regeneron is accelerating and improving the traditional drug development process through our proprietary *VelociSuite* technologies, such as *VelocImmune*, which uses unique genetically-humanized mice to produce optimized fully-human antibodies and bispecific antibodies, and through ambitious research initiatives such as the Regeneron Genetics Center, which is conducting one of the largest genetics sequencing efforts in the world.

For additional information about the company, please visit www.regeneron.com or follow @Regeneron on Twitter.

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 impact of SARS-CoV-2 (the virus that has caused the COVID-19 pandemic) on Regeneron's business and its employees, collaborators, and suppliers and other third parties on which Regeneron relies, Regeneron's and its collaborators' ability to continue to conduct research and clinical programs, Regeneron's ability to manage its supply chain, net product sales of products marketed or otherwise commercialized by Regeneron and/or its collaborators (collectively, "Regeneron's Products"), and the global economy; the nature, timing, and possible success and therapeutic applications of Regeneron's Products and product candidates being developed by Regeneron and/or its collaborators (collectively, "Regeneron's Product Candidates") and research and clinical programs now underway or planned, including without limitation the investigational Fel d 1 antibody cocktail REGN1908-1909; the likelihood, timing, and scope of possible regulatory approval and commercial launch of Regeneron's Product Candidates, such as REGN1908-1909 for the treatment of cat allergic patients with mild asthma (as well as other potential indications), and new indications for Regeneron's Products; uncertainty of 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 study discussed in this press release, on the commercial success of Regeneron's Products and Regeneron's Product Candidates (such as REGN1908-1909); safety issues resulting from the administration of Regeneron's Products and Regeneron's Product Candidates (such as REGN1908-1909) 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 of Regeneron's Products from third-party payers, including private payer 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 payers and new policies and procedures adopted by such payers; competing drugs and product candidates that may be superior to, or more cost effective than, Regeneron's Products and Regeneron's Product Candidates; the extent to which the results from the research and development programs conducted by Regeneron and/or its collaborators may be replicated in other studies and/or lead to advancement of product candidates to clinical trials, therapeutic applications, or regulatory approval; the ability of Regeneron to manufacture and manage supply chains for multiple products and product candidates; the ability of Regeneron's collaborators, 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; 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, Bayer, and Teva Pharmaceutical Industries Ltd. (or their respective affiliated companies, as applicable), to be cancelled or terminated; and 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® (aflibercept) Injection, Dupixent® (dupilumab), Praluent® (alirocumab), and REGEN-COV™ (casirivimab and imdevimab)), other litigation and other proceedings and government investigations relating to the Company and/or its operations, 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, 2020. 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 (http://newsroom.regeneron.com) and its Twitter feed (http://twitter.com/regeneron).

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