



## **FDA Approves Dupixent® (dupilumab) as First Biologic Medicine for Children Aged 6 to 11 Years with Moderate-to-Severe Atopic Dermatitis**

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**In the pivotal trial, more than twice as many children achieved clear or almost clear skin and more than four times achieved itch reduction with Dupixent plus topical corticosteroids (TCS) compared to TCS alone**

**Three-quarters of patients receiving Dupixent achieved at least a 75% improvement in overall disease, with an average improvement of approximately 80%**

**Safety consistent with the established safety profile of Dupixent across adult and adolescent atopic dermatitis patients**

Regeneron Pharmaceuticals, Inc. (NASDAQ: **REGN**) and Sanofi today announced that the U.S. Food and Drug Administration (FDA) has approved Dupixent® (dupilumab) for children aged 6 to 11 years with moderate-to-severe atopic dermatitis whose disease is not adequately controlled with topical prescription therapies or when those therapies are not advisable. Dupixent is the only biologic medicine approved for this population.

"This approval brings the paradigm-changing efficacy and established safety profile of Dupixent to children with moderate-to-severe atopic dermatitis. This young, vulnerable population struggles with debilitating symptoms and disease covering over half of their body, impacting them and their families who spend countless hours helping them manage their disease," said George D. Yancopoulos, M.D., Ph.D., Co-founder, President and Chief Scientific Officer at Regeneron. "We continue to study Dupixent in even younger children with uncontrolled moderate-to-severe atopic dermatitis from 6 months to 5 years old, as well as in children with uncontrolled, persistent asthma. Additionally, we are investigating Dupixent in other diseases driven by type 2 inflammation including eosinophilic esophagitis, food and environmental allergies, chronic obstructive pulmonary disease and other dermatologic diseases."

Dupixent is a fully-human monoclonal antibody that inhibits the signaling of the interleukin-4 (IL-4) and interleukin-13 (IL-13) proteins, and is not an immunosuppressant. Data from Dupixent clinical trials have shown that IL-4 and IL-13 are key drivers of the type 2 inflammation that plays a major role in atopic dermatitis, asthma and chronic rhinosinusitis with nasal polyposis (CRSwNP). Across all approved indications globally, more than 150,000 patients have been treated with Dupixent.

"This FDA approval is another milestone in the journey for Dupixent as an innovative biologic treatment for atopic dermatitis and other conditions driven in part by type 2 inflammation," said John Reed, M.D., Ph.D., Global Head of Research and Development at Sanofi. "Caregivers of children with moderate-to-severe atopic dermatitis and their physicians now have access to a first-in-class biologic with a proven safety profile, a factor that often plays a critical role in treatment decisions for younger patients. Additionally, improvements in itch and disease severity were observed as early as two weeks after the first dose and continued throughout active treatment, which is important for these children and their families."

The FDA evaluated the Dupixent application under Priority Review, which is reserved for medicines that represent potentially significant improvements in efficacy or safety in treating serious conditions. The FDA previously granted Breakthrough Therapy designation to Dupixent for the treatment of severe atopic dermatitis in children 6 months to 11 years of age not well controlled on topical prescription medications. The Breakthrough Therapy designation was created to expedite the development and review of drugs developed for serious or life-threatening conditions.

Atopic dermatitis, the most common form of eczema, is a chronic inflammatory disease that often appears as a rash on the skin. Moderate-to-severe atopic dermatitis is characterized by rashes that can potentially cover much of the body and can include intense, persistent itching, skin lesions and skin dryness, cracking, redness or darkness, crusting and oozing. Itch is one of the most burdensome symptoms for patients and can be debilitating.

Dupixent comes in two doses, prescribed based on weight (300 mg every four weeks for children  $\geq 15$  to  $<30$  kg and 200 mg every two weeks for children  $\geq 30$  to  $<60$  kg, following an initial loading dose) as a pre-filled syringe for pediatric patients aged 6 to 11 years.

The FDA approval is based on data that includes pivotal Phase 3 results on the efficacy and safety of Dupixent combined with topical corticosteroids (TCS) compared to TCS alone in children with severe atopic dermatitis. In the trial, children treated with Dupixent and TCS experienced significant improvements in overall disease severity, skin clearance and itch.

Results at 16 weeks showed:

- 84% improvement in average EASI (Eczema Area and Severity Index) score from baseline in patients who received Dupixent every four weeks and 80% in patients who received Dupixent every two weeks, compared to 49% and 48% for TCS alone, respectively.
- 75% of patients who received Dupixent every four weeks and 75% of patients who received Dupixent every two weeks achieved EASI-75 (Eczema Area and Severity Index-75), compared to 28% and 26% for TCS alone, respectively.
- 54% of patients who received Dupixent every four weeks and 61% of patients who received Dupixent every two weeks experienced at least a 4-point reduction in itch intensity on a 0 to 10-point scale (weekly average of daily Peak Pruritus Numerical Rating Scale), compared to 12% and 13% for TCS alone, respectively.
- 30% of patients who received Dupixent every four weeks and 39% of patients who received Dupixent every two weeks

achieved clear or almost clear skin (Investigator's Global Assessment or IGA), compared to 13% and 10% for TCS alone, respectively.

The safety profile of Dupixent with TCS was similar to what was observed in adults and adolescents with atopic dermatitis, and consistent through 52 weeks. Safety data over the 16-week treatment period showed:

- Overall rates of adverse events (AEs) were 65% for Dupixent every four weeks, 61% for Dupixent every two weeks, and 72% and 75% for TCS alone, respectively.
- AEs that were more commonly observed with Dupixent included upper respiratory tract infections (15% for Dupixent every four weeks, 9% for Dupixent every two weeks, and 8% and 12% for TCS alone, respectively), injection site reactions (10% for Dupixent every four weeks, 14% for Dupixent every two weeks, and 7% and 5% for TCS alone, respectively), nasopharyngitis (10% for Dupixent every four weeks, 3% for Dupixent every two weeks, and 3% and 10% for TCS alone, respectively), conjunctivitis (7% for Dupixent every four weeks, 9% for Dupixent every two weeks, and 3% and 5% for TCS alone, respectively), vomiting (5% for Dupixent every four weeks, 7% for Dupixent every two weeks, and 7% and 7% for TCS alone, respectively) and fever (5% for Dupixent every four weeks, 2% for Dupixent every two weeks, and 7% and 0% for TCS alone, respectively).

Additional prespecified AEs across all weight groups and doses included skin infections (6% for Dupixent every four weeks, 8% for Dupixent every two weeks, and 13% for TCS alone), which is noteworthy because patients with atopic dermatitis have an increased risk of skin infections. In adult atopic dermatitis trials, the incidence of serious skin infections was 57% less with Dupixent compared to the control groups. In addition, in the pediatric trial (6-11 years of age), herpes viral infections occurred in 0% of Dupixent patients every four weeks, 2% of Dupixent patients every two weeks, and 5% for patients on TCS alone.

Dupixent has been studied in more than 8,000 patients ages 6 years and older across more than 40 clinical trials.

### About Dupixent

Dupixent is an injection under the skin (subcutaneous injection) at different injection sites. In the pediatric (6-11 years of age) population, Dupixent is given either every two weeks (200 mg) or four weeks (300 mg), based on weight, following an initial loading dose. Dupixent is intended for use under the guidance of a healthcare professional and can be given in a clinic or at home by self-administration after training by a healthcare professional. In children younger than 12 years of age, Dupixent should be administered by a caregiver.

Dupixent is also approved in the U.S. to treat patients aged 12 years and older with moderate-to-severe atopic dermatitis that is not well controlled with prescription therapies used on the skin (topical), or who cannot use topical therapies; for use with other asthma medicines for the maintenance treatment of moderate-to-severe eosinophilic or oral steroid dependent asthma in patients aged 12 years and older whose asthma is not controlled with their current asthma medicines; and for use with other medicines for the maintenance treatment of CRSwNP in adults whose disease is not controlled. In adolescents 12 years of age or older, it is recommended that Dupixent be administered by or under the supervision of an adult.

Regeneron and Sanofi are committed to helping patients in the U.S. who are prescribed Dupixent gain access to the medicine and receive the support they may need with the DUPIXENT MyWay<sup>®</sup> program. For more information, please call 1-844-DUPIXENT (1-844-387-4936) or visit [www.DUPIXENT.com](http://www.DUPIXENT.com).

Outside of the U.S., Dupixent is approved for specific patients with moderate-to-severe atopic dermatitis and certain patients with asthma in a number of other countries around the world, including the EU and Japan. Dupixent is also approved in the EU and Japan to treat certain adults with severe CRSwNP.

### Dupilumab Development Program

In addition to the currently approved indications, Regeneron and Sanofi are also studying dupilumab in a broad range of clinical development programs for diseases driven by allergic and other type 2 inflammation, including pediatric asthma (6 to 11 years of age, Phase 3), pediatric atopic dermatitis (6 months to 5 years of age, Phase 2/3), eosinophilic esophagitis (Phase 3), chronic obstructive pulmonary disease (Phase 3), bullous pemphigoid (Phase 3), prurigo nodularis (Phase 3), chronic spontaneous urticaria (Phase 3), and food and environmental allergies (Phase 2). These potential uses are investigational, and the safety and efficacy have not been evaluated by any regulatory authority. Dupilumab is being jointly developed by Regeneron and Sanofi under a global collaboration agreement.

Dupilumab was invented using Regeneron's proprietary *VelocImmune*<sup>®</sup> technology that utilizes a proprietary genetically-engineered mouse platform endowed with a genetically-humanized immune system to produce optimized fully-human antibodies. *VelocImmune* technology has been used to create multiple antibodies including Libtayo<sup>®</sup> (cemiplimab-rwlc), Praluent<sup>®</sup> (alirocumab) and Kevzara<sup>®</sup> (sarilumab), which are approved in multiple countries around the world. Regeneron previously used these technologies to rapidly develop a [treatment](#) for Ebola virus infection, which is currently under review by the FDA, and is now being used in efforts to create prophylactic and treatment medicines for COVID-19.

### U.S. Indications

DUPIXENT is a prescription medicine used:

- to treat people aged 6 years and older with moderate-to-severe atopic dermatitis (eczema) that is not well controlled with prescription therapies used on the skin (topical), or who cannot use topical therapies. DUPIXENT can be used with or without topical corticosteroids. It is not known if DUPIXENT is safe and effective in children with atopic dermatitis under 6 years of age.
- with other asthma medicines for the maintenance treatment of moderate-to-severe eosinophilic or oral steroid dependent asthma in people aged 12 years and older whose asthma is not controlled with their current asthma medicines. DUPIXENT helps prevent severe asthma attacks (exacerbations) and can improve your breathing. DUPIXENT may also help reduce

the amount of oral corticosteroids you need while preventing severe asthma attacks and improving your breathing. DUPIXENT is not used to treat sudden breathing problems. It is not known if DUPIXENT is safe and effective in children with asthma under 12 years of age.

- with other medicines for the maintenance treatment of chronic rhinosinusitis with nasal polyposis (CRSwNP) in adults whose disease is not controlled. It is not known if DUPIXENT is safe and effective in children with chronic rhinosinusitis with nasal polyposis under 18 years of age.

#### **IMPORTANT SAFETY INFORMATION FOR U.S. PATIENTS**

**Do not use** if you are allergic to dupilumab or to any of the ingredients in DUPIXENT®.

**Before using DUPIXENT, tell your healthcare provider about all your medical conditions, including if you:**

- have eye problems
- have a parasitic (helminth) infection
- are scheduled to receive any vaccinations. You should not receive a "live vaccine" if you are treated with DUPIXENT.
- are pregnant or plan to become pregnant. It is not known whether DUPIXENT will harm your unborn baby.
- are breastfeeding or plan to breastfeed. It is not known whether DUPIXENT passes into your breast milk.

Tell your healthcare provider about all the medicines you take, including prescription and over-the-counter medicines, vitamins and herbal supplements.

Especially tell your healthcare provider if you are taking oral, topical, or inhaled corticosteroid medicines; have asthma and use an asthma medicine; and have atopic dermatitis or CRSwNP, and also have asthma. **Do not** change or stop your corticosteroid medicine or other asthma medicine without talking to your healthcare provider. This may cause other symptoms that were controlled by the corticosteroid medicine to come back.

**DUPIXENT can cause serious side effects, including:**

- **Allergic reactions (hypersensitivity), including a severe reaction known as anaphylaxis.** Stop using DUPIXENT and tell your healthcare provider or get emergency help right away if you get any of the following symptoms: breathing problems, fever, general ill feeling, swollen lymph nodes, swelling of the face, mouth and tongue, hives, itching, fainting, dizziness, feeling lightheaded (low blood pressure), joint pain, or skin rash.
- **Eye problems.** Tell your healthcare provider if you have any new or worsening eye problems, including eye pain or changes in vision.
- **Inflammation of your blood vessels.** Rarely, this can happen in people with asthma who receive DUPIXENT. This may happen in people who also take a steroid medicine by mouth that is being stopped or the dose is being lowered. It is not known whether this is caused by DUPIXENT. Tell your healthcare provider right away if you have: rash, shortness of breath, persistent fever, chest pain, or a feeling of pins and needles or numbness of your arms or legs.

**The most common side effects include:**

- **Atopic dermatitis:** injection site reactions, eye and eyelid inflammation, including redness, swelling, and itching, and cold sores in your mouth or on your lips.
- **Asthma:** injection site reactions, pain in the throat (oropharyngeal pain), and high count of a certain white blood cell (eosinophilia).
- **Chronic rhinosinusitis with nasal polyposis:** injection site reactions, eye and eyelid inflammation, including redness, swelling, and itching, high count of a certain white blood cell (eosinophilia), trouble sleeping (insomnia), toothache, gastritis, and joint pain (arthralgia).

Tell your healthcare provider if you have any side effect that bothers you or that does not go away. These are not all the possible side effects of DUPIXENT. Call your doctor for medical advice about side effects. You are encouraged to report negative side effects of prescription drugs to the FDA. Visit [www.fda.gov/medwatch](http://www.fda.gov/medwatch), or call 1-800-FDA-1088.

Use DUPIXENT exactly as prescribed. Your healthcare provider will tell you how much DUPIXENT to inject and how often to inject it. DUPIXENT is an injection given under the skin (subcutaneous injection). If your healthcare provider decides that you or a caregiver can give DUPIXENT injections, you or your caregiver should receive training on the right way to prepare and inject DUPIXENT. Do not try to inject DUPIXENT until you have been shown the right way by your healthcare provider. In children 12 years of age and older, it is recommended that DUPIXENT be administered by or under supervision of an adult. In children younger than 12 years of age, DUPIXENT should be given by a caregiver.

**Please see full [Prescribing Information](#) including Patient Information.**

#### **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 seven FDA-approved treatments and numerous product candidates in development, 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*<sup>®</sup> technologies, such as *VelocImmune*<sup>®</sup>, 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](http://www.regeneron.com) or follow @Regeneron on Twitter.

#### **About Sanofi**

Sanofi is dedicated to supporting people through their health challenges. We are a global biopharmaceutical company focused on human health. We prevent illness with vaccines, provide innovative treatments to fight pain and ease suffering. We stand by the few who suffer from rare diseases and the millions with long-term chronic conditions.

With more than 100,000 people in 100 countries, Sanofi is transforming scientific innovation into healthcare solutions around the globe.

Sanofi, Empowering Life

#### **Regeneron 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, 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 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 Regeneron's product candidates and research and clinical programs now underway or planned, including without limitation Dupixent<sup>®</sup> (dupilumab) for children aged 6 to 11 years with moderate-to-severe atopic dermatitis; uncertainty of market acceptance and commercial success of Regeneron's Products and product candidates and the impact of studies (whether conducted by Regeneron or others and whether mandated or voluntary) on the commercial success of Regeneron's Products and 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, such as dupilumab for the treatment of pediatric asthma, pediatric atopic dermatitis, eosinophilic esophagitis, chronic obstructive pulmonary disease, bullous pemphigoid, prurigo nodularis, chronic spontaneous urticaria, food and environmental allergies, and other potential indications (as well as in combination with REGN3500); unforeseen safety issues resulting from the administration of Regeneron's Products (such as Dupixent) and product candidates in patients, including serious complications or side effects in connection with the use of Regeneron's Products and 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 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 (such as Dupixent) 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 Regeneron's Products and product candidates; the extent to which the results from the research and development programs conducted by Regeneron and/or its collaborators may lead to advancement of product candidates to clinical trials or therapeutic applications; 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 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 or collaboration 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 without any further product success; 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 Dupixent and Praluent<sup>®</sup> (alirocumab)), 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, 2019 and its Form 10-Q for the quarterly period ended March 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 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>).*

#### **Sanofi Forward-Looking Statements**

*This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts. These statements include projections and estimates regarding the marketing and other potential of the product, or regarding potential future revenues from the product. Forward-looking statements are generally identified by the words "expects", "anticipates", "believes", "intends", "estimates", "plans" and similar expressions. Although Sanofi's management believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of Sanofi, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include among other things, unexpected regulatory actions or delays, or government regulation generally, that could affect the availability or commercial potential of the product, the fact that product may not be commercially successful, the uncertainties inherent in research and development, including future clinical data and analysis of existing clinical data relating to the product, including post marketing, unexpected safety, quality or manufacturing issues, competition in general, risks associated with intellectual property and any related future litigation*

and the ultimate outcome of such litigation, and volatile economic and market conditions, and the impact that COVID-19 will have on us, our customers, suppliers, vendors, and other business partners, and the financial condition of any one of them, as well as on our employees and on the global economy as a whole. Any material effect of COVID-19 on any of the foregoing could also adversely impact us. This situation is changing rapidly and additional impacts may arise of which we are not currently aware and may exacerbate other previously identified risks. The risks and uncertainties also include the uncertainties discussed or identified in the public filings with the SEC and the AMF made by Sanofi, including those listed under "Risk Factors" and "Cautionary Statement Regarding Forward-Looking Statements" in Sanofi's annual report on Form 20-F for the year ended December 31, 2019. Other than as required by applicable law, Sanofi does not undertake any obligation to update or revise any forward-looking information or statements.

**Regeneron Contacts:**

**Media Relations**

**Hannah Kwagh**

Tel: +1 (914) 847-6314

[Hannah.Kwagh@regeneron.com](mailto:Hannah.Kwagh@regeneron.com)

**Investor Relations**

**Mark Hudson**

Tel: +1 (914) 847-3482

[Mark.Hudson@regeneron.com](mailto:Mark.Hudson@regeneron.com)

**Sanofi Contacts:**

**Media Relations**

**Nicolas Kressmann**

Tel.: +1 (732) 532-5318

[Nicolas.Kressmann@sanofi.com](mailto:Nicolas.Kressmann@sanofi.com)

**Investor Relations**

**Felix Lauscher**

Tel: +33 (0)1 53 77 45 45

[ir@sanofi.com](mailto:ir@sanofi.com)

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