



## **News Release**

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## ***The Lancet* Simultaneously Publishes Two Phase 3 Studies Detailing Comprehensive Efficacy and Safety of TREMFYA® (guselkumab), a First-in-Class IL-23 p19 Subunit Inhibitor, in Psoriatic Arthritis**

*DISCOVER-1 and DISCOVER-2, totaling 1,120 patients, are the first Phase 3 psoriatic arthritis studies evaluating this mechanism of action*

*TREMFYA® is currently under review by the U.S. FDA for approval to treat adults with active psoriatic arthritis*

*Up to 30 percent of the 125 million people worldwide with psoriasis can also develop psoriatic arthritis<sup>1</sup>*

**SPRING HOUSE, PENNSYLVANIA, April 6, 2020** – The Janssen Pharmaceutical Companies of Johnson & Johnson today announced that [The Lancet](#) has published comprehensive data from DISCOVER-1 and -2, two Phase 3 studies evaluating the safety and efficacy of TREMFYA® (guselkumab) for the treatment of adults with active psoriatic arthritis (PsA).<sup>2,3</sup> TREMFYA is a monoclonal antibody that selectively binds to

the p19 subunit of interleukin (IL)-23 and inhibits its interaction with the IL-23 receptor. IL-23 is an important driver of the pathogenesis of inflammatory diseases such as psoriasis and PsA.<sup>4</sup> These are the first publications from a Phase 3 program reporting safety and efficacy results in active PsA for an antibody with this mechanism of action. TREMFYA is currently not licensed for the treatment of PsA and is undergoing evaluation for this use by the U.S. Food and Drug Administration (FDA).

Data from the two studies in the DISCOVER program formed the basis of the September 13, 2019 supplemental Biologics License Application submission to the FDA.<sup>5</sup> Primary endpoint results published in *The Lancet* complement the first [presentation of data](#) from the DISCOVER program at the 2019 American College of Rheumatology and Association of Rheumatology Professionals Annual Meeting (ACR/ARP) in November 2019. DISCOVER-1 evaluated 381 participants with active PsA who had an inadequate response to standard therapies, including participants (~30 percent) previously treated with anti-tumor necrosis factor (TNF) alpha biologics.<sup>2</sup> DISCOVER-2 included 739 patients who were biologic-naïve and had an inadequate response to standard therapies.<sup>3</sup>

“Psoriatic arthritis is a complex disease, and patients are looking for therapies that can address as many of their distressing symptoms as possible,” said lead study investigator and author of the DISCOVER-2 study, Philip J. Mease<sup>1</sup>, M.D., Swedish Medical Center/Providence St. Joseph Health and University of Washington in Seattle, Washington. “With varied endpoints addressing joint, skin, soft tissue inflammation and physical function, plus robust safety data, these publications in *The Lancet* demonstrate how TREMFYA treats the multi-dimensional condition of PsA.”

Results published in *The Lancet* show that, at week 24, the primary endpoints achieved statistical significance in both studies. Results of secondary endpoints were also reported.<sup>2,3</sup>

- **Joint symptoms:**

- In DISCOVER-1, among patients receiving TREMFYA 100 mg every four weeks (q4w) and every eight weeks (q8w), 59 percent and 52 percent achieved a 20 percent improvement in the primary endpoint of ACR response (ACR20), respectively, vs 22 percent on placebo (both

$p < 0.001$ ). In DISCOVER-2, the primary endpoint was also met; 64 percent of patients receiving TREMFYA q4w or q8w achieved an ACR20 response, vs 33 percent on placebo (both  $p < 0.0001$ ).

- In DISCOVER-1, 37 percent of TREMFYA q4w and 30 percent of TREMFYA q8w patients achieved an ACR50 improvement, vs 9 percent on placebo (both  $p < 0.0001$ ). In DISCOVER-2, 33 percent of TREMFYA q4w and 31 percent of TREMFYA q8w patients achieved the same endpoint at week 24, vs 14 percent on placebo (both  $p < 0.0001$ ). Higher proportions of patients receiving TREMFYA q4w or q8w also attained an ACR70 response at week 24 vs the placebo groups.
- In DISCOVER-2, where the impact of TREMFYA on inhibition of radiographic damage progression was studied, TREMFYA q4w demonstrated statistically significant inhibition of radiographic progression of joint structural damage as measured by mean improvement from baseline in van der Heijde score ( $p = 0.011$ ).<sup>6</sup> TREMFYA q8w demonstrated numerical but not statistically significant inhibition of structural damage compared to placebo at week 24 ( $p = 0.072$ ).

- **Skin:**

- Among patients who had clinically relevant psoriasis at baseline in DISCOVER-1, 75 percent receiving TREMFYA q4w and 57 percent receiving TREMFYA q8w achieved clear or almost clear skin at week 24<sup>7</sup>, vs 15 percent on placebo (both  $p < 0.0001$ ). In DISCOVER-2, 68 percent of patients receiving TREMFYA q4w and 70 percent receiving TREMFYA q8w achieved the same endpoint at week 24, vs 19 percent on placebo (both  $p < 0.0001$ ).
- Higher Psoriasis Area and Severity Index (PASI) 75, PASI 90, PASI 100 response rates were observed in the TREMFYA groups vs the placebo groups at week 24 (in DISCOVER-1, all unadjusted  $p < 0.0001$  with PASI 100 being  $p = 0.0005$  and in DISCOVER-2, all unadjusted  $p < 0.0001$ ).

- **Soft tissue inflammation and composite measures of disease activity:**

- Based on analysis of pooled data from DISCOVER-1 and -2, among patients who had enthesitis (pain where the bone, tendon and ligament meet) at baseline, enthesitis resolved in 45 percent of TREMFYA q4w and

50 percent of TREMFYA q8w patients, vs 29 percent on placebo (both  $p=0.0301$ ).<sup>8</sup>

- Based on analysis of pooled data from DISCOVER-1 and -2, among patients who had dactylitis (severe inflammation of the finger and toe joints) at baseline, dactylitis resolved in 64 percent of TREMFYA q4w patients and 59 percent of q8w patients, vs 42 percent on placebo ( $p=0.011$  and  $p=0.0301$ , respectively).<sup>9</sup>
- In DISCOVER-1, 30 percent of TREMFYA q4w and 23 percent of TREMFYA q8w patients were considered to have achieved minimal disease activity, vs 11 percent on placebo ( $p=0.0002$  and  $p=0.012$ , respectively). In DISCOVER-2, 19 percent of TREMFYA q4w patients and 25 percent of TREMFYA q8w patients achieved the same endpoint, vs 6 percent on placebo (both  $p<0.0001$ ).<sup>10</sup>

- **Patient-reported outcome measures assessing physical function and health-related quality of life:**

- TREMFYA patients reported clinically meaningful mean improvements in Health Assessment Questionnaire Disability Index (HAQ-DI)<sup>11</sup> (all  $p<0.0001$ ) and the 36-Item Short-Form Health Survey (SF-36)<sup>12</sup> Physical Component Summary score (PCS)<sup>13</sup>, which measures patient-reported functional health and well-being from baseline (in DISCOVER-1, both  $p<0.0001$ , and in DISCOVER-2 both  $p=0.011$ ). Improvements from baseline that did not reach statistical significance versus placebo (all  $p>0.05$ ) were reported in SF-36 Mental Component Summary score (MCS), which measures patient-reported mental well-being.

- **Safety:**

- In DISCOVER-1 and -2, serious adverse events up to week 24 in q4w (0 and 3 percent) and q8w (3 and 1 percent) were similar to those in the placebo (4 and 3 percent).
- Observed adverse events (AEs) were generally consistent with previous studies of TREMFYA and current prescribing information. In DISCOVER-1, 55 percent of patients receiving TREMFYA q4w, 54 percent of patients receiving TREMFYA q8w, and 60 percent of patients receiving placebo reported AEs up to week 24. In DISCOVER-2, AEs were reported by 46 percent of patients receiving TREMFYA q4w, 46 percent of patients

receiving TREMFYA q8w, and 41 percent of patients in the placebo groups.

- No opportunistic infections and cases of new inflammatory bowel disease were observed in patients treated with TREMFYA.
- No new safety signals were reported.

“The IL-23 immune pathway is associated with a number of immune-mediated inflammatory diseases, including psoriasis and psoriatic arthritis,” said Alyssa Johnsen, M.D., Ph.D., Vice President, Rheumatology Disease Area Leader, Janssen Research & Development, LLC. “We’re excited to share the DISCOVER-1 and -2 data in psoriatic arthritis, a disease that is a concern for so many who are also grappling with psoriasis, where TREMFYA has already made an impact.”

TREMFYA was first approved by the FDA on July 13, 2017 for the treatment of adults with moderate to severe plaque psoriasis who are candidates for systemic therapy or phototherapy.<sup>14</sup> It is currently approved in 72 countries for this indication.

#### **About DISCOVER-1 (NCT03162796)**<sup>15</sup>

DISCOVER-1 was a randomized, double-blind, multicenter Phase 3 study evaluating the efficacy and safety of TREMFYA administered by subcutaneous (SC) injection in participants with active PsA, including those previously treated with anti-TNF therapies. DISCOVER-1 evaluated 381 participants and ended after approximately one year.

The study consisted of: a screening phase of up to six weeks, a blinded treatment phase of 52 weeks that included a placebo-controlled period from week 0 to week 24 and an active treatment period from week 24 to week 52, and a safety follow-up phase of eight weeks after week 52 (week 52 to 60; 12 weeks from the last administration of study agent [at week 48] through to the final visit in the safety follow-up phase). Efficacy, safety, pharmacokinetic, immunogenicity and biomarker evaluations were performed in the study on a defined schedule.

#### **About DISCOVER-2 (NCT03158285)**<sup>16</sup>

DISCOVER-2 is a randomized, double-blind, multicenter Phase 3 study evaluating the efficacy and safety of TREMFYA administered by SC injection in biologic-naïve participants with active PsA. DISCOVER-2 is evaluating 739 participants and continuing through approximately two years.

The study consists of: a screening phase of up to six weeks, a blinded treatment phase (approximately 100 weeks) that includes a placebo-controlled period from week 0 to week 24 and an active treatment period from week 24 to week 100, and a safety follow-up phase of 12 weeks after the last administration of study agent. Efficacy, health economics, safety, pharmacokinetics, immunogenicity, biomarker and pharmacogenomics evaluations are being performed in the study on a defined schedule.

### **About PsA**

PsA is a chronic, immune-mediated inflammatory disease characterized by peripheral joint inflammation, enthesitis, dactylitis, axial disease, and the skin lesions associated with psoriasis.<sup>17</sup> Studies show that up to 30 percent of people with psoriasis also develop PsA.<sup>1</sup> The disease causes pain, stiffness and swelling in and around the joints; it commonly appears between the ages of 30-50, but can develop at any time.<sup>1</sup> Though the exact cause of PsA is unknown, genes, the immune system and environmental factors are all believed to play a role in the onset of the disease.<sup>18</sup>

### **About TREMFYA® (guselkumab)<sup>14</sup>**

Developed by Janssen, TREMFYA is the first marketed monoclonal antibody that selectively binds to the p19 subunit of IL-23 and inhibits its interaction with the IL-23 receptor. It is approved as a prescription medicine in the U.S., Canada, the EU, Japan and a number of other countries worldwide for the treatment of adult patients with moderate to severe plaque psoriasis who may benefit from injections or pills (systemic therapy) or phototherapy (treatment using ultraviolet [UV] light). IL-23 is an important driver of the pathogenesis of inflammatory diseases such as psoriasis and psoriatic arthritis.<sup>4</sup> In psoriasis, TREMFYA is administered as a 100 mg SC injection once every 8 weeks, after starter doses at weeks 0 and 4.

The Janssen Pharmaceutical Companies of Johnson & Johnson maintain exclusive worldwide marketing rights to TREMFYA®.

### **Important Safety Information**

#### **What is the most important information I should know about TREMFYA®?**

**TREMFYA® may cause serious side effects, including infections.** TREMFYA® is a prescription medicine that may lower the ability of your immune system to fight infections and may increase your risk of infections. Your healthcare provider should check you for infections and tuberculosis (TB) before starting treatment with TREMFYA® and may treat you for TB before you begin treatment with TREMFYA® if you have a history of TB or have active TB. Your healthcare provider should watch you closely for signs and symptoms of TB during and after treatment with TREMFYA®.

- Tell your healthcare provider right away if you have an infection or have symptoms of an infection, including:
  - fever, sweats, or chills
  - muscle aches
  - weight loss
  - cough
  - warm, red, or painful skin or sores on your body different from your psoriasis
  - diarrhea or stomach pain
  - shortness of breath
  - blood in your phlegm (mucus)
  - burning when you urinate or urinating more often than normal

**Do not take TREMFYA®** if you have had a serious allergic reaction to guselkumab or any of the ingredients in TREMFYA®.

#### **Before using TREMFYA®, tell your healthcare provider about all of your medical conditions, including if you:**

- have any of the conditions or symptoms listed in the section **“What is the most important information I should know about TREMFYA®?”**
- have an infection that does not go away or that keeps coming back.
- have TB or have been in close contact with someone with TB.

- have recently received or are scheduled to receive an immunization (vaccine). You should avoid receiving live vaccines during treatment with TREMFYA®.
- are pregnant or plan to become pregnant. It is not known if TREMFYA® can harm your unborn baby.
- are breastfeeding or plan to breastfeed. It is not known if TREMFYA® 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.

**What are the possible side effects of TREMFYA®?**

**TREMFYA® may cause serious side effects. See “What is the most important information I should know about TREMFYA®?”**

### **Serious Allergic Reactions**

Stop using TREMFYA® and get emergency medical help right away if you have any of the following symptoms of a serious allergic reaction: feel faint, swelling of your face, eyelids, lips, mouth, tongue or throat, trouble breathing or throat tightness, chest tightness, or skin rash, hives.

**The most common side effects of TREMFYA® include:** upper respiratory infections, headache, injection site reactions, joint pain (arthralgia), diarrhea, stomach flu (gastroenteritis), fungal skin infections and herpes simplex infections.

These are not all the possible side effects of TREMFYA®. Call your doctor for medical advice about side effects.

Use TREMFYA® exactly as your healthcare provider tells you to use it.

**Please read the full [Prescribing Information](#), including [Medication Guide](#) for TREMFYA®, and discuss any questions that you have with your doctor.**

**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.

## **About the Janssen Pharmaceutical Companies of Johnson & Johnson**

At Janssen, we're creating a future where disease is a thing of the past. We're the Pharmaceutical Companies of Johnson & Johnson, working tirelessly to make that future a reality for patients everywhere by fighting sickness with science, improving access with ingenuity, and healing hopelessness with heart. We focus on areas of medicine where we can make the biggest difference: Cardiovascular & Metabolism, Immunology, Infectious Diseases & Vaccines, Neuroscience, Oncology, and Pulmonary Hypertension.

Learn more at [www.janssen.com](http://www.janssen.com). Follow us at [www.twitter.com/JanssenGlobal](https://www.twitter.com/JanssenGlobal).

Janssen Research & Development, LLC is a part of the Janssen Pharmaceutical Companies of Johnson & Johnson.

*Dr. Philip J. Mease is a paid consultant for Janssen. He has not been compensated for any media work.*

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1. National Psoriasis Foundation. Statistics. <https://www.psoriasis.org/content/statistics> Accessed March 2020.
2. Deodhar, A, et al., *The Lancet*. Guselkumab in patients with active psoriatic arthritis who were biologic-naïve or had previously received TNF $\alpha$  inhibitor treatment (DISCOVER-1): a double-blind, randomised, placebo-controlled phase 3 trial. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30265-8/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30265-8/fulltext). Accessed March 2020.
3. Mease, PJ, et al., *The Lancet*. Guselkumab in biologic-naïve patients with active psoriatic arthritis (DISCOVER-2): a double-blind, randomised, placebo-controlled phase 3 trial. [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30263-4/fulltext?rss=yes#articleInformation](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30263-4/fulltext?rss=yes#articleInformation). Accessed March 2020.
4. Benson JM, et al. Discovery and mechanism of ustekinumab. *MAbs* 2011 3:535-45.
5. Janssen.com. Janssen Submits Application to U.S. FDA Seeking First-in-Class Approval of TREMFYA® (guselkumab) for Treatment of Active Psoriatic Arthritis. <https://www.janssen.com/janssen-submits-application-us-fda-seeking-first-class-approval-tremfya-guselkumab-treatment-adults>. Accessed March 2020.
6. Medscape. Standardizing the Monitoring of Outcome Measures. <https://www.medscape.com/viewarticle/741428> 6. Accessed March 2020.
7. Investigator Global Assessment score of 0 or 1, and a >2 grade reduction in body surface area affected.
8. Creaky Joints. What is Enthesitis? <https://creakyjoints.org/symptoms/what-is-enthesitis/>. Accessed March 2020. In DISCOVER-1 and -2, resolution of enthesitis was defined as complete absence of enthesitis in any location measured by Leeds Enthesitis Index (LEI). Results were pooled across DISCOVER-1 and -2.
9. Creaky Joints. What is Dactylitis? <https://creakyjoints.org/symptoms/what-is-dactylitis/>. Accessed March 2020. In DISCOVER-1 and -2, resolution of dactylitis was defined as complete absence of dactylitis in 20 sites (10 fingers, 10 toes) as measured by Dactylitis Severity Scale (DSS). Results were pooled across DISCOVER-1 and -2.
10. Patients were considered to have achieved minimal disease activity if fulfilling at least five of the following seven criteria: tender joint count 1 or less, swollen joint count 1 or less, PASI score 1 or less, patient pain VAS score 15 or less, patient global disease activity VAS score 20 or less, HAQ-DI score 0 • 5 or less, and tender entheses points 1 or less.
11. Science Direct. Health Assessment Questionnaire. <https://www.sciencedirect.com/topics/medicine-and-dentistry/health-assessment-questionnaire>. Accessed March 2020.
12. Science Direct. Short-Form 36. Science Direct. Health Assessment Questionnaire. <https://www.sciencedirect.com/topics/medicine-and-dentistry/health-assessment-questionnaire>. Accessed March 2020.
13. Springer Link. Physical Component Summary. [https://link.springer.com/referenceworkentry/10.1007%2F978-0-387-78665-0\\_6349](https://link.springer.com/referenceworkentry/10.1007%2F978-0-387-78665-0_6349). Accessed March 2020.

14. Food and Drug Administration. TREMFYA Prescribing Information. 2017. [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2017/761061s000lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/761061s000lbl.pdf). Accessed March 2020.
  15. Clinicaltrials.gov. A Study Evaluating the Efficacy and Safety of Guselkumab Administered Subcutaneously in Participants With Active Psoriatic Arthritis Including Those Previously Treated With Biologic Anti-Tumor Necrosis Factor (TNF) Alpha Agent(s) (DISCOVER-1). Identifier: NCT03162796. <https://clinicaltrials.gov/ct2/show/NCT03162796>. Accessed March 2020.
  16. Clinicaltrials.gov. A Study Evaluating the Efficacy and Safety of Guselkumab Administered Subcutaneously in Participants With Active Psoriatic Arthritis (DISCOVER-2). Identifier: NCT03158285. <https://clinicaltrials.gov/ct2/show/NCT03158285>. Accessed March 2020.
  17. Belasco J, Wei N. Psoriatic Arthritis: What is Happening at the Joint? *Rheumatol Ther* 2019 6:305-315.
  18. National Psoriasis Foundation. About Psoriatic Arthritis. <https://www.psoriasis.org/about-psoriatic-arthritis>. Accessed March 2020.
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