

ARCADIA Clinical Trial Program Media Factsheet

What are the ARCADIA trials?¹⁻³

ARCADIA 1 and 2 were two identically designed, pivotal phase III trials that assessed the efficacy and safety of Nemlurio® (nemolizumab) for subcutaneous use in adult and adolescent patients of age 12 years and above with moderate-to-severe atopic dermatitis not adequately controlled by topical treatments.¹⁻³

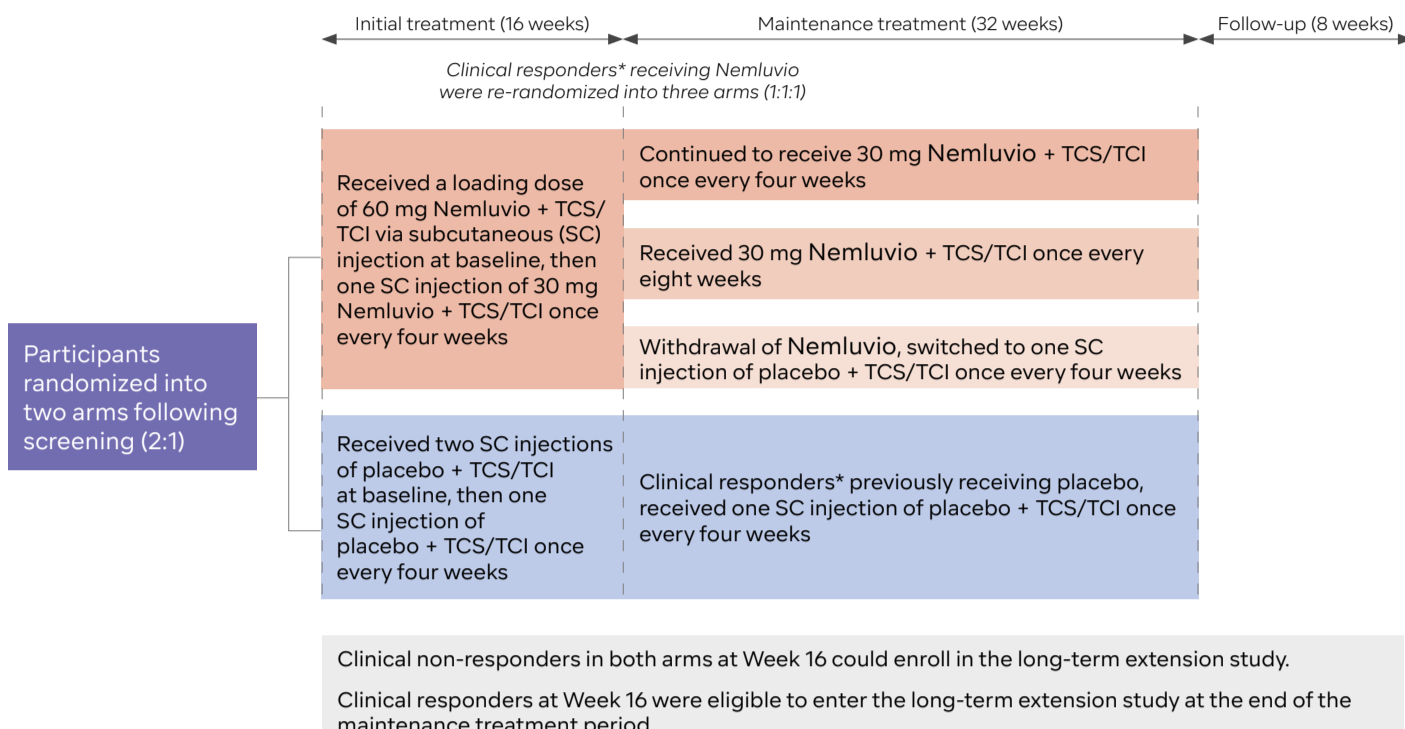
Nemlurio is the first approved monoclonal antibody that specifically targets the interleukin-31 (IL-31) receptor alpha, inhibiting the signaling of IL-31.⁴

The ARCADIA trials investigated Nemlurio administered with background therapy (topical corticosteroids [TCS] with or without topical calcineurin inhibitors [TCI]), in over 1,700 patients with atopic dermatitis. The efficacy and safety of Nemlurio was compared with placebo after a 16-week treatment period.¹⁻³

Trial design¹⁻³

The two randomized, double-blind, placebo-controlled ARCADIA trials enrolled more than 1,700 patients:

- 941 patients in ARCADIA 1
- 788 patients in ARCADIA 2



**Clinical responders were defined as patients who achieved an Investigator's Global Assessment score of clear (0) or almost clear (1), or a 75% or greater improvement in the Eczema Area and Severity Index score.*

Trial results^{3,5}

The phase III ARCADIA 1 and 2 trials met **both co-primary endpoints** and all key secondary endpoints, demonstrating that **Nemlurio + TCS/TCI significantly improved itch, skin lesions and sleep disturbance in patients 12 years and older with moderate-to-severe atopic dermatitis at Week 16.**^{3,5}

Results across both trials at Week 16 showed that:^{3,5}



More than a third of patients treated with Nemlurio + TCS/TCI **reached clearance (0) or almost clearance (1) of skin lesions** when assessed using the Investigator's Global Assessment score (36% and 38% in ARCADIA 1 and 2 compared to 25% and 26% in the placebo group, respectively; $p < 0.001$).



Over 40% of patients treated with Nemlurio + TCS/TCI **achieved a 75% reduction in the Eczema Area and Severity Index** (44% and 42% in ARCADIA 1 and 2 compared to 29% and 30% in the placebo group, respectively; $p < 0.001$).

Nemlurio + TCS/TCI also demonstrated **rapid onset of action on itch and sleep disturbance**, with statistically significant improvements in itch observed **as early as one week after treatment initiation.**^{3,5}

The ARCADIA program also included a maintenance study of clinical responders at Week 16. Nemlurio + TCS/TCI maintained itch and skin responses when dosing once every four or eight weeks, up to 48 weeks, **making it the first ever biologic in atopic dermatitis to maintain its efficacy with an eight-week dosing regimen.**⁶

Overall, Nemlurio + TCS/TCI was well tolerated, and its safety profile was consistent across treatment arms.^{3,5,6}

The ARCADIA trials demonstrate that **Nemlurio + TCS/TCI has the potential to be a therapeutic solution** for patients suffering from moderate-to-severe atopic dermatitis.

The burden of atopic dermatitis

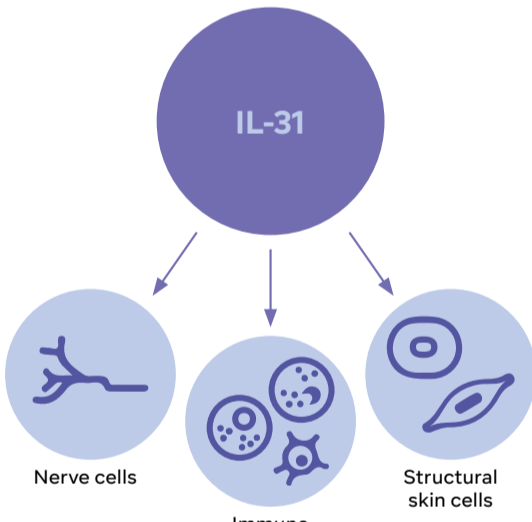
Atopic dermatitis is a common, chronic, and flaring inflammatory skin disease, characterized by persistent itch and recurrent skin lesions.⁷⁻⁹ It has a **significant negative impact on quality of life**; studies of adults living with the disease have shown that:¹⁰⁻¹⁵

- 87% say they are seeking freedom from itch, with speed of itch relief therefore prioritized by both patients and physicians.
- A majority report experiencing sleep disturbance.

Atopic dermatitis affects **more than 230 million people worldwide** and is the most common inflammatory skin disease, impacting almost four times more people than psoriasis.^{8,16,17}

- Approximately 7% of adults in the United States have atopic dermatitis.¹⁶

IL-31 is a neuroimmune cytokine that acts as a bridge between the immune and nervous systems.^{8,18,19} It drives itch and is involved in inflammation and epidermal dysregulation in atopic dermatitis.^{8,18}



Nemlurio regulatory status

Based on data from the ARCADIA clinical trial program, **Nemlurio has been approved by the U.S. Food and Drug Administration (FDA) for the treatment of patients 12 years and older with moderate-to-severe atopic dermatitis**, in combination with TCS/TCI when the disease is not adequately controlled with topical prescription therapies.²⁰ This follows the recent U.S. FDA approval of Nemlurio for subcutaneous injection for the treatment of adults with prurigo nodularis in August 2024.²¹

Additionally, the Committee for Medicinal Products for Human Use of the European Medicines Agency adopted a positive opinion on December 12, 2024, recommending the approval of nemolizumab in the European Union for the treatment of both atopic dermatitis and prurigo nodularis. The positive opinion will now be reviewed by the European Commission, which has the authority to approve medicines in all 27 EU member states as well as Iceland, Liechtenstein, and Norway.

Nemolizumab is under review for the treatment of both prurigo nodularis and atopic dermatitis by multiple additional regulatory authorities around the world and further submissions will continue in 2025.²²

Galderma has exclusive rights to the development and marketing of nemolizumab worldwide except in Japan and Taiwan. In Japan, nemolizumab (under the brand name Mitchga®) is approved for the treatment of prurigo nodularis and pruritus associated with atopic dermatitis.^{23,24}

Important Safety Information

Indication: NEMLUVIO® (nemolizumab-ilto) is a prescription medicine used to treat adults and children 12 years of age and older with moderate-to-severe eczema (atopic dermatitis or AD) in combination with prescription therapies used on the skin (topical) when the eczema is not well controlled by topical therapies alone. NEMLUVIO is also used to treat adults with prurigo nodularis. **Contraindication:** Known hypersensitivity to NEMLUVIO or any ingredients in NEMLUVIO. **Warnings/Precautions:** Reactions have been reported with NEMLUVIO use. You should not receive a live vaccine right before or during treatment with NEMLUVIO. **Adverse Events:** Most common side effects of NEMLUVIO include: headache, joint pain, hives (itchy red rash or wheals) and muscle aches.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit www.fda.gov/medwatch or call 1-800-FDA-1088.

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

References:

1. ClinicalTrials.gov. Efficacy & Safety of Nemolizumab in Subjects With Moderate-to-Severe Atopic Dermatitis. Available [online](#). Last accessed December 2024
2. ClinicalTrials.gov. Efficacy & Safety of Nemolizumab in Subjects With Moderate-to-Severe Atopic Dermatitis. Available [online](#). Last accessed December 2024
3. Silverberg J, et al. Nemolizumab with concomitant topical therapy in adolescents and adults with moderate-to-severe atopic dermatitis (ARCADIA 1 & 2): results from two replicate double-blinded, randomised controlled phase 3 trials. *Lancet*. 2024. doi: 10.1016/S0140-6736(24)01203-0
4. Silverberg J, et al. Phase 2B randomized study of nemolizumab in adults with moderate-to-severe atopic dermatitis and severe pruritus. *J Allergy Clin Immunol*. 2020;145(1):173-182. doi:10.1016/j.jaci.2019.08.013
5. Silverberg J, et al. Nemolizumab improves skin lesions, itch and sleep disturbance in patients with moderate-to-severe atopic dermatitis: Results from two identical phase 3 multinational studies (ARCADIA 1 and ARCADIA 2). Late-breaking abstract presented at EADV 2023
6. Silverberg, J, et al. Maintenance of efficacy and safety with nemolizumab at Week 48: results from two global phase-III pivotal studies (ARCADIA 1 and ARCADIA 2) in patients with moderate-to-severe atopic dermatitis. Late-breaking abstract presented at AAD 2024
7. Yang G, et al. Skin Barrier Abnormalities and Immune Dysfunction in Atopic Dermatitis. *Int J Mol Sci*. 2020;21(8): 2867. doi:https://doi.org/10.3390/ijms21082867
8. Langan SM, Irvine AD, Weidinger S. Atopic dermatitis [published correction appears in *Lancet*. 2020;396(10253):758]. *Lancet*. 2020;396(10247):345-360. doi: 10.1016/S0140-6736(20)31286-1
9. Ständer S. Atopic dermatitis. *N Engl J Med*. 2021;384(12):1136-1143. doi: 10.1056/NEJMra2023911
10. Silverberg J. Comorbidities and the impact of atopic dermatitis. *Ann Allergy Asthma Immunol*. 2019;123(2):144-151. doi: 10.1016/j.anai.2019.04.020
11. Silverberg J, Gelfand JM, Margolis DJ, et al. Patient burden and quality of life in atopic dermatitis in US adults: a population-based cross-sectional study. *Ann Allergy Asthma Immunol*. 2018;121(3):340-347. doi: 10.1016/j.anai.2018.07.006
12. Urban K, et al. The global, regional, and national burden of atopic dermatitis in 195 countries and territories: An ecological study from the Global Burden of Disease Study 2017. *JAAD Int*. 2021;2:12-18. doi: 10.1016/j.jdin.2020.10.002
13. Halvorsen J, et al. Suicidal Ideation, Mental Health Problems, and Social Function in Adolescents with Eczema: A Population-Based Study. *J Invest Derm*. 2014;134: 1847-1854. doi:10.1038/jid.2014.70
14. Augustin M, et al. Real-World Treatment Patterns and Treatment Benefits among Adult Patients with Atopic Dermatitis: Results from the Atopic Dermatitis Patient Satisfaction and Unmet Need Survey. *Acta Derm Venereol*. 2022;7: 102:adv00830. doi: 10.2340/actadv102.3932
15. Durno N, et al. Biologics and oral systemic treatment preferences in patients and physicians for moderate-to-severe atopic dermatitis: a discrete choice experiment in the United Kingdom and Germany. *J Derm Treatment*. 2024;35(1). doi: 10.1080/09546634.2024.2417966
16. Raharja A, et al. Psoriasis: a brief overview. *Clin Med (Lond)*. 2021;21(3):170-173. doi: 10.7861/clinmed.2021-0257
17. Silverberg J, et al. Sleep Disturbances in Adults with Eczema Are Associated with Impaired Overall Health: A US Population-Based Study. *J Invest Derm*. 2015; 135: 56-66; doi:10.1038/jid.2014.325
18. Dillon SR, et al. Interleukin 31, a cytokine produced by activated T cells, induces dermatitis in mice [published correction appears in *Nat Immunol*. 2005;6(1):114]. *Nat Immunol*. 2004;5(7):752-760. doi: 10.1038/nri1084
19. Bewley A, et al. Prurigo Nodularis: A Review of IL-31RA Blockade and Other Potential Treatments. *Dermatol Ther (Heidelb)*. 2022;12(9):2039-2048. doi:10.1007/s13555-022-00782-2
20. Galderma data on file. Nemlurio U.S. Prescribing Information. 2024
21. Galderma. Galderma receives U.S. FDA approval for Nemlurio® (nemolizumab) for adult patients living with prurigo nodularis. Available [online](#). Last accessed December 2024
22. Galderma. Galderma receives filing acceptances for nemolizumab in prurigo nodularis and atopic dermatitis in four additional countries. Available [online](#). Last accessed December 2024
23. Chugai Pharmaceutical Co., Ltd. Maruho Obtained Regulatory Approval for Mitchga, the First Antibody Targeting IL-31 for Itching Associated with Atopic Dermatitis. Available [online](#). Last accessed December 2024
24. Chugai Pharmaceutical Co., Ltd. Mitchga Approved for Pediatric Atopic Dermatitis and Prurigo Nodularis, for its Subcutaneous Injection 30mg Vials. Available [online](#). Last accessed December 2024