CO85

Mid- and Long-Term Number Needed to Treat for Tildrakizumab 200 mg in Moderate-to-Severe Plaque Psoriasis Patients with Body Weight ≥90 kg

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BACKGROUND AND OBJECTIVES

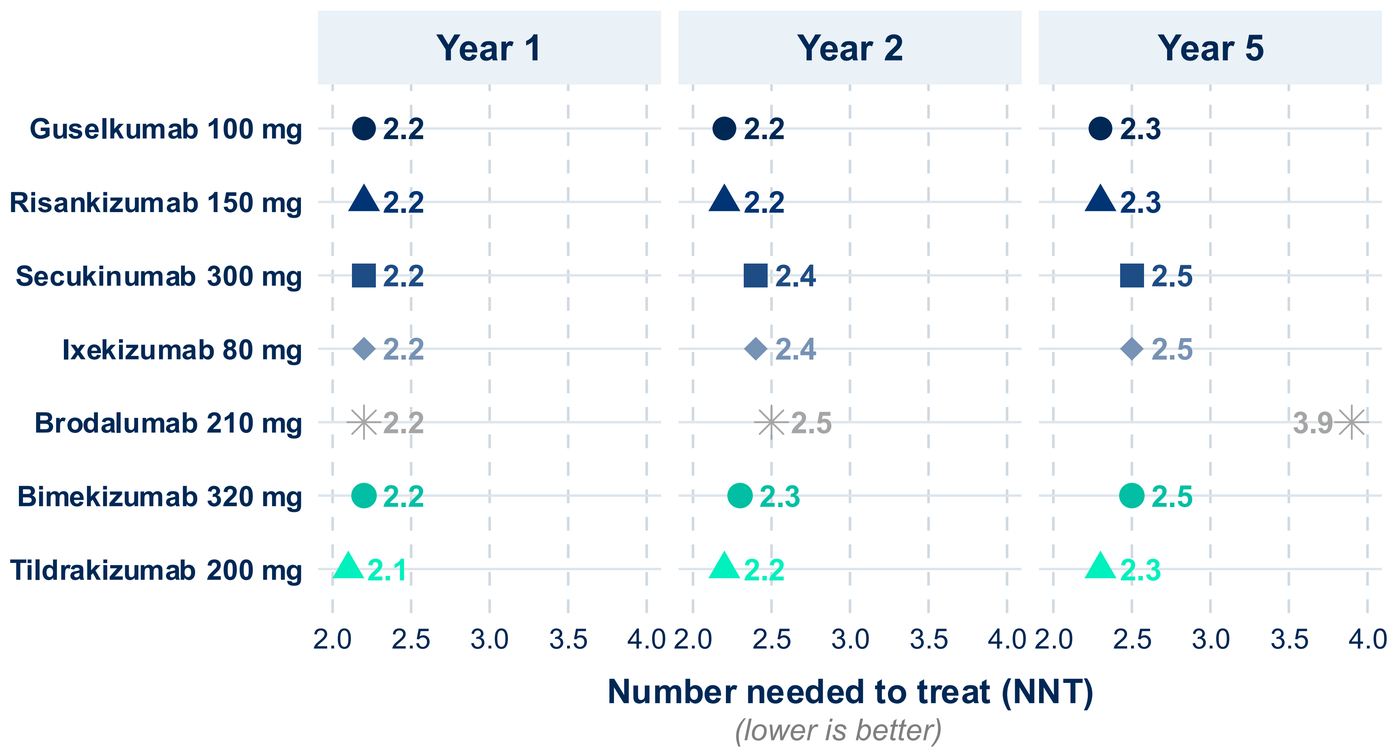
- Moderate-to-severe plaque psoriasis may require biological treatment maintained over time. The number needed to treat (NNT) provides an intuitive measure of clinical efficacy based on the probability of achieving a PASI 75 response.
- To estimate the therapeutic response over medium to long term, up to 5 years, using NNT based on responder rates for tildrakizumab 200 mg compared to other biological treatments in patients with moderate-to-severe plaque psoriasis.

CONCLUSIONS

- Tildrakizumab 200 mg had the lowest estimated NNT at year 1 (2.1) and remained among the lowest at year 5 (2.3), showing a sustained clinical benefit over time.

KEY FINDINGS

- A **lower NNT indicates that fewer patients with moderate-to-severe plaque psoriasis need to be treated** to achieve one additional PASI 75 responder.
- At year 1, NNT values across the biological comparators ranged from 2.1 to 2.3.
- At year 2, the range widened slightly, from 2.2 to 2.5.
- At year 5, NNT values ranged from 2.3 to 3.9, reflecting greater divergence between compounds over time.
- In this model, tildrakizumab 200 mg had the lowest estimated NNT at year 1 (2.1) and remained among the lowest at year 5 (2.3), despite the conservative body-weight assumption.
- At year 5, an NNT of 2.3 implies a PASI 75 response of approx. 43.5% (1/2.3), versus approx. 40.0% for an NNT of 2.5: a 3.5-point gap, or about 35 additional responders per 1,000 patients treated. Versus an NNT of 3.9 (approx. 25.6%), the gap widens to 17.9 points, or about 180 additional responders.

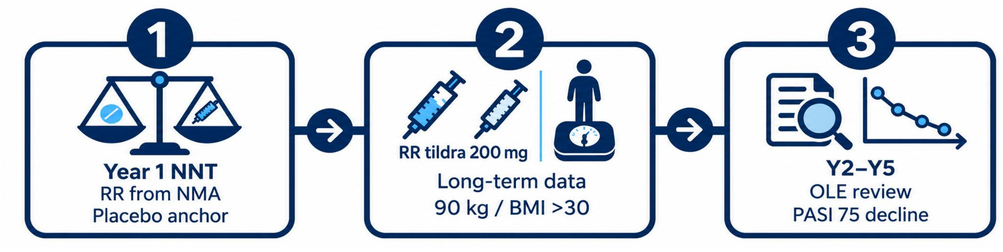


PASI 75
Clinical endpoint: response defined as a ≥75% improvement in the PASI (Psoriasis Area Severity Index) score.

NNT
The NNT is calculated using PASI 75 as the clinical response criterion. PASI 75 is not a reference line on the axis, but rather the clinical endpoint used to estimate how many patients need to be treated for one additional patient to achieve a response.

METHODS

1. Year 1 NNT was estimated using risk ratios (RR) from Lebwohl et al. (2025) [1], which were anchored to the placebo response rate from the tildrakizumab trial (Reich et al., 2017) [2], 5.81%, to determine the responder rate of all comparators.
2. The effectiveness of tildrakizumab 200 mg was assessed by comparing tildrakizumab 100 mg and 200 mg in a long-term study stratified by obesity status (Lebwohl et al., 2026) [3]. For this comparison, a mean body weight of 90 kg was assumed, corresponding to approximately 63% of patients with body mass index (BMI) > 30 kg/m2.
3. A targeted literature review was conducted to identify all five-year open-label extensions of the biological comparators [4, 5, 6, 7, 8, 9, 10]. The five-year responder rates for PASI 75 were extracted from tables, text, or by digitalizing figures when necessary. The change in response rates since year one was used to estimate the percentage of responders for each following year.



References used in the extrapolation

Treatment	Source
Tildrakizumab	Lebwohl et al. (2026) [3], Thaci et al. (2021) [4]
Guselkumab	Reich et al. (2021) [5]
Risankizumab	Papp et al. (2025) [6]
Secukinumab	Mrowietz et al. (2025) [7]
Ixekizumab	Blauvelt et al. (2021) [8]
Brodalumab	Puig et al. (2020) [9]
Bimekizumab	Warren et al. (2025) [10]

DISCUSSION AND LIMITATIONS

- Long-term inputs come from open-label extensions that differ in design, populations and missing-data handling, so estimates are indicative rather than formal indirect comparisons.
- The estimate for tildrakizumab 200 mg, assuming a body weight of 90 kg, may introduce some transportability bias; however, the extent of this bias is expected to be limited, as mean body weight across the comparator trial populations was generally close to 90 kg.
- Differences between compounds may be clinically marginal, but at population level they translate into a substantial number of additional responders.

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