Supplementary Table 4: Compilation of biologic treatments in nail psoriasis.

| Treatment | - | Target | Dosage | Efficacy (primary endpoint) | Safety | Level of evidence |
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| Etanercept | - | TNF-α inhibitor | 50 mg twice weekly for 12 weeks, followed by once weekly, or 50mg once weekly for 24 weeks | - | | |
| - | Reich K et al.[120] | - | - | The mean NAPSI score reduction of 37.7% at Week 16 | Well tolerated<br>One case of complete atrioventricular block was reported | Phase IIIb, randomised, double-blind, placebo-controlled trial |
| - | Ortonne JP et al.[121] | - | - | At Week 24, the mean NAPSI showed a reduction in both etanercept groups | Well tolerated | Phase III, randomised, open-label, active-controlled trial |
| Infliximab | | TNF-α inhibitor | 5 mg/kg at Weeks 0,2,6, and every 8 weeks | - | | |
| - | Fabroni C et al.[122] | - | - | Mean improvement of 81% in NAPSI at Week 22 | Not reported | Open-label, uncontrolled, retrospective study |
| - | Bianchi L et al.[123] | - | - | 50% reduction of the initial NAPSI | Not reported | Open-label, prospective study |
| - | Reich K et al.[124] | - | - | At Week 24, a 56% mean decrease of the NAPSI was maintained through Week 50 | Well tolerated, three serious infections<br>Three delayed hypersensitivity reactions<br>Two lupus-like syndromes<br>Four serious infusion reactions | Phase III trial |
| Adalimumab | - | TNF-α inhibitor | - | - | - | - |
| - | Kokolakis G et al.[125] | - | 80 mg loading dose, then 40 mg every other week starting 1 week later | 60% of patients achieved NAPSI: 90 at 24 months | Not reported | Real-life, multicentre, prospective study |
| - | Elewski BE et al.[126] | - | An 80 mg loading dose is followed by 40 mg every other week, starting 1 week later | 54.4% achieved NAPSI:75 at Week 52 | Most common: upper respiratory infection and nasopharyngitis<br>Serious adverse events: 6.9% (cardiac failure, myocardial infarction, diverticular perforation, anaphylactic reaction, arthropod sting, tenosynovitis, seizure, major depression, suicidal ideation, bladder sphincter atony, stress urinary | Phase III, multicentre, double-blind, randomised, parallel-arm, placebo-controlled trial |

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| | | | | | incontinence, prostatitis, and hypertensive crisis; n=1 for each event) Serious infections: 3.4% (diverticulitis, bronchitis, endocarditis, lung infection, pneumonia, influenza, and erysipelas) | |
| Certolizumab | - | TNF-α inhibitor | 400 mg at Weeks 0, 2, and 4, followed by 200 mg every 2 weeks | - | | |
| - | Dattola A et al.[127] | - | - | The baseline mNAPSI mean (±SD) score was 14.64 (±SD), with changes from baseline of −5.69 at Week 12, −8.77 at Week 24, and −12.92 at Week 52 | The most commonly reported AEs (in ≥two patients) were worsening psoriasis (n=4), urinary tract infection (n=3), influenza (n=2), and pneumonia (n=2)<br><br>No serious AEs were reported | Real-life, retrospective study |
| - | van der Heijde D et al.[128] | - | - | 65% achieved total resolution of nail symptoms by Week 216 | The most common serious TEAEs reported were in the categories of 'Infections and Infestations' and 'Musculoskeletal and Connective Tissue Disorders'<br><br>Four out of the 23 infections considered to be serious were pneumonia<br><br>2.5% had a serious cardiac disorder, and 1.8% had a malignancy.<br>There were three reports of breast cancer and single reports of lymphoma, metastatic gastrointestinal cancer, ovarian cancer, and cervical carcinoma Stage 0 | Phase III, randomised, double blind, placebo-controlled trial |
| Golimumab | - | TNF-α inhibitor | - | - | - | - |
| - | Mease P et al.[129] | - | 2 mg/kg administered at Weeks 0 and 4, followed by maintenance infusions every 8 weeks through Week 52 | At Week 24, the mNAPSI score improved by −11.4 in the golimumab group compared to −3.7 in the placebo group. | - | Phase III, multicentre, randomised, double-blind, placebo-controlled trial |
| - | Kavanaugh A et al.[130] | - | Golimumab 50 mg, or golimumab 100 mg at Weeks 0, 4, 8, 12, 16, and 20 | At Week 24, NAPSI median percentage change was 33% in the golimumab 50 mg group, 54% in the golimumab 100 mg group, and 0% in the placebo group | Most common: nasopharyngitis and upper respiratory tract infection<br><br>Increased risk of infection (more often with the higher dose) | Randomised, placebo-controlled trial |

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| | | | | | More placebo-treated patients experienced serious infections (two cases of pneumonia, one case of cellulitis, and one case of urosepsis) than those receiving golimumab 50 mg (one case of abscess) and golimumab 100 mg (one case of sepsis/cholecystitis)<br><br>No cases of active tuberculosis were observed<br><br>Three malignancies were reported, all in the golimumab 100 mg group (two cases of basal cell carcinoma and one of prostate cancer), representing an incidence of 2.32 (95% CI: 0.48–6.78) per 100 patient-years versus 0.00 (95% CI: 0.00–7.13) per 100 patient-years for placebo | |
| Ustekinumab | - | IL-12/23 inhibitor | - | - | - | - |
| - | Yang S et al.[131] | - | Ustekinumab (45 mg) for a total of 52 weeks at Week 0, Week 4, and every 12 weeks thereafter | Significant improvement in overall NAPSI scores during the treatment period<br><br>The big (first) and second toes showed significant improvement after 52 weeks of treatment<br><br>Among NAPSI components, pitting and oil-drop discolouration were the only characteristics that showed significant changes post-treatment | - | Prospective, observational study |
| - | Youn SW et al.[132] | - | - | At Week 52, PASI75 and PASI90 were achieved in 70.6% and 39.2%, and these proportions corresponded to 42% and 71% NAPSI | - | Post-hoc analysis of a Phase IV, multicentre, open-label, real-world, observational trial |

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| | | | | improvement rates, respectively | | |
| RZB | - | IL-23 inhibitor | - | - | - | - |
| - | Kristensen LE et al.[133] | - | RZB 150 mg at Weeks 0, 4, and 16<br>At Week 24: all patients switched to open-label every 12 weeks through Week 208 | At Week 24, RZB-treated patients experienced an LS Mean change from baseline (95% CI) in mNAPSI was −9.30 points, whereas placebo-treated patients showed a −5.48 point change | - | Phase 3, randomised, double-blind, placebo-controlled trial |
| - | Megna M et al.[134] | - | 150 mg as a subcutaneous injection at Week 0, Week 4, and every 12 weeks thereafter | At baseline, the mean NAPSI (SD) was 9.3±4.7<br>NAPSI clinical improvement was already assessed at week 4 (6.7±4.6), being statistically significant for the first time at Week 16 (4.1 ±2.4; p<0.01) and then up to Week 52 (1.4±0.8; p<0.0001) | No cases of serious AEs, injection site reactions, *Candida*, major cardiovascular events, or malignancy<br><br>Mild AES included nasopharyngitis (7.7%), upper respiratory tract infections (5.1%), headache (5.1%), fatigue (5.1%), arthralgia (2.6%), and pruritus (2.6%)<br><br>Five (12.8%) patients experienced mild transient hyperglycaemia, mild liver enzyme elevation, and mild leucocytosis | Real-life, retrospective study |
| Tildrakizumab | - | IL-23 inhibitor | 100 mg subcutaneously on Day 0, followed by doses at Week 4, and then every 12 weeks | - | | |
| - | Galluzzo M et al.[135] | - | - | 67.6% reduction in NAPSI score over 28 weeks | Well tolerated with no evidence of cumulative or organ toxicity<br><br>No patients dropped out of the treatment due to AEs | Retrospective analysis |
| - | Brunasso A.[136] | - | - | At Week 20: the mean mNAPSI was 5.1 (90% improvement) | - | Retrospective study |
| Ixekizumab | - | IL-17A inhibitor | - | - | - | - |
| - | van de Kerkhof P et al.[137] | - | Initial dose: 160 mg of ixekizumab at Week 0 | At Week 12, greater mean percentage NAPSI improvements were | Well tolerated | Phase III, double-blind trial (UNCOVER-3),[141] randomised patients to placebo |

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| | | | Maintenance dosing: 80 mg administered either Q2W or Q4W<br><br>Post Week 12: All patients received open-label ixekizumab 80 mg Q4W through Week 6 | achieved with ixekizumab Q4W (36.7%) and ixekizumab Q2W (35.2%) compared to placebo (−34.3%; p<0.001 for each comparison) and etanercept (20.0%; p=0.048 for Q4W; p=0.072 for Q2W) | | |
| Secukinumab | - | IL-17A inhibitor | - | - | - | - |
| - | Reich K et al.[138] | - | 150 mg or 300 mg weekly for 5 weeks and then every 4 weeks | Both dosages demonstrated superiority over placebo at Week 16 (NAPSI reduction of –45.3% in the 300 mg group and –37.9% in the 150 mg group) and Week 32 (mean decreases of –63.2% for the 300 mg group and –52.6% for the 150 mg group) | The most common AEs were headache, nasopharyngitis, and upper respiratory tract infections<br><br>Two patients developed *Candida* infections while on secukinumab (one oral with secukinumab 300 mg and one vulvovaginal with secukinumab 150 mg)<br><br>Serious adverse events were rare, nonfatal, and occurred as single incidents | Phase IIIb, double-blind, randomised, placebo-controlled, parallel-group, multicentre study |
| - | Nash P et al.[139] | - | First group: 300 mg with a loading dose of 300 mg at baseline and Weeks 1, 2, and 3, followed by 300 mg every 4 weeks starting at Week 4<br><br>Second group: 150 mg with a loading dose of 150 mg at baseline and Weeks 1, 2, and 3, followed by 150 mg every 4 weeks starting at Week 4<br><br>Third group: secukinumab 150 mg without a loading dose, administered every 4 weeks starting at baseline | Secukinumab reduced the mNAPSI score at Week 16 versus placebo: –8.71 (300 mg), –8.95 (150 mg), –7.55 (150 mg no load) versus –2.34 (placebo); all p<0.0001 | Well tolerated | Phase III, multicentre, randomised, double-blind, placebo-controlled trial |

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| | | | Placebo: administered on the same schedule as the active treatment groups | | | |
| Bimekizumab | - | IL-17F inhibitor | - | - | - | - |
| - | Campione E et al.[140] | - | 160 mg subcutaneously at Weeks 0, 4, 8, and 16, then 160 mg every 8 weeks | Nail psoriasis clearance (PGA-F=0):<br>Week 4: 31.7% of patients achieved complete clearance<br><br>Week 16: 57% achieved complete clearance<br>Week 36: 88.5% achieved complete clearance | - | Retrospective, multicentre, observational study |
| - | Hagino T et al.[141] | - | Bimekizumab (320 mg every 4 weeks) was administered until Week 16<br><br>After Week 16, dosing regimens were adjusted: 31 patients continued to receive 320 mg every 4 weeks, while 21 patients received 320 mg every 8 weeks | Among patients with moderate-to-severe fingernail psoriasis (PGA-F: ≥2 at Week 0; n = 31), the achievement rates for PGA-F 0/1 at Weeks 4, 16, and 24 were 16.1%, 46.4%, and 66.7%, respectively | Pruritus was reported in five patients (8.9%), oral candidiasis in five patients (7.1%), and dyshidrotic eczema in five patients (7.1%)<br><br>Other reported AEs were cellulitis, hepatic disorder (with increased transaminases), blepharitis, fatigue, exacerbation of associated AD, and exacerbation of PsA, each in one patient (1.8%)<br>These events were generally mild and managed with appropriate medical treatment. AEs leading to discontinuation of bimekizumab involved exacerbation of associated AD in one patient (1.8%), dyshidrotic eczema in two patients (3.6%), and pruritus in one patient (1.8%) | Retrospective, clinical study |

AD: atopic dermatitis; AEs: adverse events; mNAPSI: modified nail psoriasis severity index; PASI: Psoriasis Area and Severity Index; PGA-F: Physician Global Assessment of Fingernail Psoriasis; PsA: psoriatic arthritis; Q2W: every 2 weeks; Q4W: every 4 weeks; RZB: risankizumab; TEAEs: treatment-emergent adverse events.