**Appendix1-Search strategy**

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| **PubMed** | **Results** |
| 1. "Arthritis, Psoriatic"[Mesh] Sort by: Relevance | 5377 |
| 1. ((((((((Psoriatic Arthropathies[Title/Abstract]) OR Psoriatic[Title/Abstract]) OR Arthropathy[Title/Abstract]) OR Arthropathies, Psoriatic[Title/Abstract]) OR Psoriatic by: Relevance | 22743 |
| 1. #1 OR #2 | 23556 |
| 1. (((((((((((((((((((((((((((((((tumor necrosis factor inhibitor[Title/Abstract]) OR TNF-a inhibitor[Title/Abstract]) OR tumor necrosis factor alpha inhibitor[Title/Abstract]) OR tumor necrosis factor alpha blocker[Title/Abstract]) OR TNF-a blocker[Title/Abstract]) OR anti-TNF-a agents[Title/Abstract]) OR Anti-interleukin agents[Title/Abstract]) OR interleukin inhibitor[Title/Abstract]) OR interleukin blockers[Title/Abstract]) OR IL inhibitors[Title/Abstract]) OR cytotoxic T-lymphocyte associated protein 4[Title/Abstract]) OR CTLA-4-Ig[Title/Abstract]) OR type-4 cyclic nucleotide phosphodiesterase inhibitor[Title/Abstract]) OR type-4 cyclic nucleotide phosphodiesterase blocker[Title/Abstract]) OR PDE-4 inhibitor[Title/Abstract]) OR Janus kinase inhibitor[Title/Abstract]) OR JAK inhibitor[Title/Abstract]) OR Janus kinase blocker[Title/Abstract]) OR anti-JAK agents[Title/Abstract]) OR tofacitinib[Title/Abstract]) OR etanercept[Title/Abstract]) OR infliximab[Title/Abstract]) OR adalimumab[Title/Abstract]) OR golimumab[Title/Abstract]) OR certolizumab pegol[Title/Abstract]) OR ustekinumab[Title/Abstract]) OR secukinumab[Title/Abstract]) OR ixekizumab[Title/Abstract]) OR brodalumab[Title/Abstract]) OR clazakizumab[Title/Abstract]) OR abatacept[Title/Abstract]) OR apremilast[Title/Abstract]] Sort by: Relevance | 22774 |
| 1. "randomized controlled trial"[Publication Type]) OR "controlled clinical trial"[Publication Type]) OR "randomized"[Title/Abstract]) OR "randomised"[Title/Abstract]) OR "placebo"[Title/Abstract]) OR "sham"[Title/Abstract]) OR "randomly"[Title/Abstract]) OR "trial"[Title/Abstract]) OR "groups"[Title/Abstract] Sort by: Relevance | 2832783 |
| 1. Search #3 AND #4 AND #5 | 588 |

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| **Embase** | **Results** |
| 1. 'psoriatic arthritis'/exp | 19318 |
| 02. 'psoriasis, arthritic':ti,ab | 2 |
| 03. 'arthritic psoriasis':ti,ab | 19 |
| 04. 'psoriatic arthritis':ti,ab | 14752 |
| 05. 'psoriasis arthropathica':ti,ab | 91 |
| 06. 'psoriatic arthropathy':ti,ab | 500 |
| 07. 'arthropathies, psoriatic':ti,ab | 2 |
| 08. 'arthropathy, psoriatic':ti,ab | 3 |
| 09. 'psoriatic arthropathies':ti,ab | 11 |
| 10. #1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9 | 21037 |
| 11. ''tumor necrosis factor α inhibitor':ab,ti | 88 |
| 12. 'tnf-a inhibitor':ab,ti | 121 |
| 13. 'tumor necrosis factor alpha inhibitor':ab,ti | 17 |
| 14. 'tumor necrosis factor alpha blocker':ab,ti | 14 |
| 15. 'tnf-a blocker':ab,ti | 58 |
| 16. 'anti-tnf-a agents':ab,ti | 5 |
| 17. 'anti-interleukin agents':ab,ti | 12 |
| 18. 'interleukin inhibitor':ab,ti | 4 |
| 19. 'il inhibitors':ab,ti | 0 |
| 20. ''cytotoxic t-lymphocyte associated protein 4 immune globulin':ab,ti | 250 |
| 21. ''ctla-4-ig':ab,ti | 0 |
| 22. ''type-4 cyclic nucleotide phosphodiesterase inhibitor':ab,ti | 0 |
| 23. ''type-4 cyclic nucleotide phosphodiesterase blocker':ab,ti | 183 |
| 24. 'pde-4 inhibitor':ab,ti | 183 |
| 25. 'janus kinase inhibitor':ab,ti | 665 |
| 26. 'jak inhibitor':ab,ti | 1514 |
| 27. 'janus kinase blocker':ab,ti | 1 |
| 28. 'anti-jak agents':ab,ti | 1 |
| 29. 'tofacitinib':ab,ti | 1792 |
| 30. etanercept':ab,ti | 12917 |
| 31. 'infliximab':ab,ti | 22742 |
| 32. 'adalimumab':ab,ti | 15120 |
| 33. 'golimumab':ab,ti | 2969 |
| 34. 'certolizumab pegol':ab,ti | 1688 |
| 35. 'ustekinumab':ab,ti | 2878 |
| 36. 'secukinumab':ab,ti | 1410 |
| 37. 'ixekizumab':ab,ti | 574 |
| 38. 'brodalumab':ab,ti | 278 |
| 39. 'clazakizumab':ab,ti | 27 |
| 40. 'abatacept':ab,ti | 3580 |
| 41. 'apremilast':ab,ti | 862 |
| 42. #11 OR #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18 OR #19 OR #20 OR #21 OR #22 OR #23 OR #24 OR #26 OR #27 OR #28 OR #29 OR #30 OR #31 OR #32 OR #33 OR #34 OR #35 OR #36 OR #37 OR #38 OR #39 OR #40 OR #41 | 45774 |
| 43. 'randomized controlled trial'/exp | 535586 |
| 44. 'controlled clinical trial':ab,ti | 16991 |
| 45. 'randomized':ab,ti | 662913 |
| 46. 'randomised':ab,ti | 135605 |
| 47. 'placebo':ab,ti | 282681 |
| 48. 'sham':ab,ti | 108543 |
| 49. 'randomly':ab,ti | 399242 |
| 50. 'trial':ab,ti | 760159 |
| 51. 'groups':ab,ti | 2600995 |
| 52. #43 OR #44 OR #45 OR #46 OR #47 OR #48 OR #49 OR #50 OR #51 | 3795181 |
| 53. #10 AND #42 AND #52 | 1942 |

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| **Cochrane** | **Results** |
| 1. MeSH descriptor: [Arthritis, Psoriatic] explode all trees | 306 |
| 1. Psoriasis, Arthritic | 4 |
| 3. Arthritic Psoriasis | 9 |
| 4. Psoriatic Arthritis | 1268 |
| 5. Psoriasis Arthropathica | 2 |
| 6. Psoriatic Arthropathy | 41 |
| 1. Arthropathies, Psoriatic | 7 |
| 1. Arthropathy | 526 |
| 1. Psoriatic | 1906 |
| 1. Psoriatic Arthropathies | 7 |
| 1. #1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 | 2393 |
| 1. tumor necrosis factor α inhibitor | 150 |
| 1. TNF-a inhibitor | 79 |
| 1. tumor necrosis factor alpha inhibitor | 716 |
| 1. tumor necrosis factor alpha blocker | 65 |
| 1. TNF-a blocker | 13 |
| 1. anti-TNF-a agents | 49 |
| 1. Anti-interleukin agents | 128 |
| 1. interleukin inhibitor | 1422 |
| 1. interleukin blockers | 132 |
| 1. IL inhibitors | 1580 |
| 1. cytotoxic T-lymphocyte associated protein 4 immune globulin | 3 |
| 1. type-4 cyclic nucleotide phosphodiesterase inhibitor | 20 |
| 1. type-4 cyclic nucleotide phosphodiesterase blocker | 0 |
| 1. PDE-4 inhibitor | 32 |
| 1. Janus kinase inhibitor | 484 |
| 1. JAK inhibitor | 348 |
| 1. Janus kinase blocker | 7 |
| 1. anti-JAK agents | 0 |
| 1. tofacitinib | 424 |
| 1. etanercept | 1503 |
| 1. adalimumab | 1828 |
| 1. golimumab | 456 |
| 1. certolizumab pegol | 400 |
| 1. ustekinumab | 427 |
| 1. secukinumab | 473 |
| 1. ixekizumab | 225 |
| 1. brodalumab | 78 |
| 1. clazakizumab | 11 |
| 1. abatacept | 529 |
| 1. apremilast | 262 |
| 1. infliximab | 1762 |
| 1. #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 #22 or #23 or #24 or #25 or #26 or #27 or #28 or #29 or #30 or #31 #32 or #33 or #34 or #35 or #36 or #37 or #38 or #39 or #40 or #41 or #42 | 6594 |
| 1. #11 and #43 | 1018 |

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| **Clinicaltrials.gov**  Applied Filters: With Results, Interventional | **Results** |
| 1. Psoriatic Arthritis and Tumor necrosis factor α inhibitor | 0 |
| 1. Psoriatic Arthritis and TNF-a inhibitor | 1 |
| 1. Psoriatic Arthritis and Tumor necrosis factor alpha inhibitor | 0 |
| 1. Psoriatic Arthritis and Tumor necrosis factor alpha blocker | 0 |
| 1. Psoriatic Arthritis and TNF-a blocker | 0 |
| 1. Psoriatic Arthritis and Anti-TNF-a agents | 0 |
| 1. Psoriatic Arthritis and Anti-interleukin agents | 2 |
| 1. Psoriatic Arthritis and Interleukin inhibitor | 0 |
| 1. Psoriatic Arthritis and Interleukin blockers | 0 |
| 1. Psoriatic Arthritis and IL inhibitors | 0 |
| 1. Psoriatic Arthritis and Cytotoxic T-lymphocyte associated protein | 0 |
| 1. Psoriatic Arthritis and CTLA-4-Ig | 0 |
| 1. Psoriatic Arthritis and Type-4 cyclic nucleotide phosphodiesterase inhibitor | 0 |
| 1. Psoriatic Arthritis and PDE-4 inhibitor | 0 |
| 1. Psoriatic Arthritis and Janus kinase inhibitor | 3 |
| 1. Psoriatic Arthritis and Anti-JAK agents | 0 |
| 1. Psoriatic Arthritis and Tofacitinib | 3 |
| 1. Psoriatic Arthritis and Etanercept | 7 |
| 1. Psoriatic Arthritis and Infliximab | 3 |
| 1. Psoriatic Arthritis and Adalimumab | 3 |
| 1. Psoriatic Arthritis and Golimumab | 3 |
| 1. Psoriatic Arthritis and Certolizumab pegol | 2 |
| 1. Psoriatic Arthritis and Ustekinumab | 4 |
| 1. Psoriatic Arthritis and Secukinumab | 2 |
| 1. Psoriatic Arthritis and Ixekizumab | 2 |
| 1. Psoriatic Arthritis and Brodalumab | 1 |
| 1. Psoriatic Arthritis and Clazakizumab | 1 |
| 1. Psoriatic Arthritis and Abatacept | 2 |
| 1. Psoriatic Arthritis and Apremilast | 6 |
| Total | 45 |

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| **Web of Science** | **Results** |
| 1. TS= (Psoriasis, Arthritic OR Arthritic Psoriasis OR Psoriatic Arthritis OR Psoriasis Arthropathica OR Psoriatic Arthropathy OR Arthropathies, Psoriatic OR Arthropathy OR Psoriatic OR Psoriatic Arthropathies) | 54281 |
| 1. TS=(tumor necrosis factor α inhibitor OR TNF-a inhibitor OR tumor necrosis factor alpha inhibitor OR tumor necrosis factor alpha blocker OR TNF-a blocker OR anti-TNF-a agents OR Anti-interleukin agents OR interleukin inhibitor OR interleukin blockers OR IL inhibitors OR cytotoxic T-lymphocyte associated protein OR CTLA-4-Ig OR type-4 cyclic nucleotide phosphodiesterase inhibitor OR type-4 cyclic nucleotide phosphodiesterase blocker OR PDE-4 inhibitor OR Janus kinase inhibitor OR JAK inhibitor OR Janus kinase blocker OR anti-JAK agents OR tofacitinib OR etanercept OR infliximab OR adalimumab OR golimumab OR certolizumab pegol OR ustekinumab OR secukinumab OR ixekizumab OR brodalumab OR clazakizumab OR abatacept OR apremilast) | 206432 |
| 3. TS=(randomized controlled trial OR controlled clinical trial OR randomized OR randomized OR placebo OR sham OR randomly OR trial OR groups) | 9,469,786 |
| 1. #1 AND #2 AND #3 | 3111 |