SUPPLEMENTARY MATERIAL

**Literature Search**

We performed a three-step literature search approach to identify and locate all relevant studies on the use of drugs targeting the JAK pathway in the treatment of dermatological diseases. Later, we selected articles related to the use of these drugs in patients with psoriasis. The first step, performed on October 4th 2018, entailed an initial limited search of the MEDLINE and EMBASE databases using the following [search query: ('janus kinase inhibitor'/exp OR 'janus kinase inhibitor') AND ('skin disease' OR 'psoriasis' OR 'vitiligo' OR 'alopecia' OR 'dermatitis' OR 'atopic dermatitis'), and the subsequent analysis of the text contained in the titles, abstracts and index terms which described the articles. The second step consisted of a new search of the same databases on October 29, 2018 but using a more complex strategy derived from the keywords we previously extracted (Table S1). Results were ordered by disease, based on title and abstract review. Subsequently, sources related to psoriasis were selected. Lastly, we searched the reference list of all selected reports and articles for additional relevant studies. Authors of primary studies or reviews were contacted for further information when necessary. This process was performed independently by two researchers (AM and FG-G) and further updated to include studies published up to April 2019. Finally, a study search was conducted on ClinicalTrials.gov with previously anti-jak drugs used in plaque psoriasis in March 2021.

**Selection of información sources**

Where possible data were extracted fron de ClinicalTrials.gov. When they were not available the data published in scientific journals and conference abstracts were used in this order,

SUPPLEMENTARY TABLES

**Table S1.** Mapping studies

**Table S2.** Tofacitinib systemic treatment efficacy and safety.

**Table S3.** Summary of efficacy and safety of the use of the different anti-JAK drugs in skin psoriasis.

**Table S4.** Search strategies in literature databases.

**Table S5.** List of included studies.

**Table S6.** List of excluded studies with reasons for exclusion.

**Table S7.** Metadata article-references

**Table S8.** Serious AE systemic Tofacitinib

**Table S9.** Efficacy/safety topical Tofacitinib oinment

**Table S10.** Efficacy/safety topical ruxolitinib ointment

**Table S11.** Efficacy/safety peficitinib treatment

**Table S12.** Baricitinib efficacy/safety

**Table S13.** Serious baricitinib AE

**Table S14.** Solcitonib efficacy/safety

**Table S15.** Solcitinib serious AE

**Table S16.** Itacitinib efficacy/safety

**Table S17.** Itacitinib serious AE

**Table S18.** Deucravacitanib**/**BMS-986165 efficacy/safety

**Table S19.** AbrocitinibPF-04965842 efficacy/safety

**Table S20.** PF-06700841 efficacy/safety

Note.

In tables methodology adverse events assessment are defined: :

“Systematic Assessment”: Any method of routinely determining whether or not certain adverse events have occurred, for example through a standard questionnaire, regular investigator assessment, regular laboratory testing, or other method.

“Non-Systematic Assessment”: Any non-systematic method for determining whether or not adverse events have occurred, such as self-reporting by participants or occasional assessment / testing.

**Table S4. Search strategies in Web of Science database.**

|  |  |  |
| --- | --- | --- |
| **Search** | **Results** | **Strategy** |
| # 5 | **1.217** | #4 AND #1*Bases de datos= WOS Período de tiempo=Todos los años**Idioma de búsqueda=Auto* |
| # 4 | **988.291** | #3 OR #2*Bases de datos= WOS Período de tiempo=Todos los años**Idioma de búsqueda=Auto* |
| # 3 | **664.079** | **TEMA:** (skin disease) *OR* **TEMA:** (rosaceae) *OR* **TEMA:** (scleroderma) *OR* **TEMA:** (cinca syndrome) *OR* **TEMA:** (hyperhidrosis) *OR* **TEMA:**(erythropoietic protoporphyria) *OR* **TEMA:** (anca associated vasculitis) *OR* **TEMA:** (seborrheic dermatitis) *OR* **TEMA:** (herpes) *OR* **TEMA:**(sjoegren syndrome)*Bases de datos= WOS Período de tiempo=Todos los años**Idioma de búsqueda=Auto* |
| # 2 | **432.287** | **TEMA:** (psoriasis) *OR* **TEMA:** (atopic dermatitis) *OR* **TEMA:** (alopecia) *OR* **TEMA:** (contact dermatitis) *OR* **TEMA:** (vitiligo) *OR* **TEMA:**(graft versus host reaction) *OR* **TEMA:** (lichen planus) *OR* **TEMA:** (pyoderma gangrenosum) *OR* **TEMA:** (pruritus) *OR* **TEMA:** (eosinofilic annulare erythema) *OR* **TEMA:** (male type alopecia) *OR* **TEMA:** (proteasome associated autoinflammatory syndrome) *OR* **TEMA:** (sting associated vasculopathy with onset in infancy) *OR* **TEMA:** (chronic atypical neutrophilic dermatosis with lipodystrophy and elevated temperature syndrome) *OR* **TEMA:** (hand dermatitis) *OR* **TEMA:** (discoid lupus erythematosus) *OR* **TEMA:** (mucocutaneous candidiasis) *OR* **TEMA:** (urticaria) *OR* **TEMA:** (suppurative hidradenitis) *OR* **TEMA:** (melanoma) *OR* **TEMA:** (non melanoma skin cancer) *OR* **TEMA:** (acne) *OR* **TEMA:** (lichen sclerosus) *OR* **TEMA:** (pityriasis rubra pilaris) *OR* **TEMA:** (pemphigus)*Bases de datos= WOS Período de tiempo=Todos los años**Idioma de búsqueda=Auto* |
| # 1 | **10.669** | **TEMA:** (tofacitinib) *OR* **TEMA:** (baricitinib) *OR* **TEMA:** (ruxolitinib) *OR* **TEMA:** (oclacitinib) *OR* **TEMA:** (upadacitinib) *OR* **TEMA:**(delgocitinib) *OR* **TEMA:** (itacitinib) *OR* **TEMA:** (momelotinib) *OR* **TEMA:** (peficitinib) *OR* **TEMA:** (decernotinib) *OR* **TEMA:** (fedratinib) *OR***TEMA:** (pacritinib) *OR* **TEMA:** (filgotinib) *OR* **TEMA:** (gandotinib) *OR* **TEMA:** (solcitinib) *OR* **TEMA:** (lestaurtinib) *OR* **TEMA:** (janus kinase inhibitor)*Bases de datos= WOS Período de tiempo=Todos los años**Idioma de búsqueda=Auto* |

**Database**: SCOPUS

|  |
| --- |
| ((TITLE-ABS-KEY (tofacitinib) OR TITLE-ABS-KEY (baricitinib) OR TITLE-ABS-KEY (ruxolitinib) OR TITLE-ABS-KEY(oclacitinib) OR TITLE-ABS-KEY(upadacitinib) OR TITLE-ABS-KEY(delgocitinib) OR TITLE-ABS-KEY(itacitinib) OR TITLE-ABS-KEY(momelotinib) OR TITLE-ABS-KEY(peficitinib) OR TITLE-ABS-KEY(decernotinib) OR TITLE-ABS-KEY(fedratinib) OR TITLE-ABS-KEY(pacritinib) OR TITLE-ABS-KEY(filgotinib) OR TITLE-ABS-KEY(gandotinib) OR TITLE-ABS-KEY(solcitinib) OR TITLE-ABS-KEY(lestaurtinib) OR TITLE-ABS-KEY(janus kinasa inhibitor))) AND ( ((TITLE-ABS-KEY(psoriasis) OR TITLE-ABS-KEY(atopic dermatitis) OR TITLE-ABS-KEY(alopecia) OR TITLE-ABS-KEY(contact dermatitis) OR TITLE-ABS-KEY(vitiligo) OR TITLE-ABS-KEY(graft versus host reaction) OR TITLE-ABS-KEY(lichen planus) OR TITLE-ABS-KEY(pyoderma gangrenosum) OR TITLE-ABS-KEY(pruritus) OR TITLE-ABS-KEY(eosinofilic annulare erythema) OR TITLE-ABS-KEY(male type alopecia) OR TITLE-ABS-KEY(proteasome associated autoinflammatory syndrome) OR TITLE-ABS-KEY(sting associated vasculopathy with onset in infancy) OR TITLE-ABS-KEY(chronic atypical neutrophilic dermatosis with lipodystrophy and elevated temperature syndrome) OR TITLE-ABS-KEY(hand dermatitis) OR TITLE-ABS-KEY(discoid lupus erythematous) OR TITLE-ABS-KEY(mucocutaneous candidiasis) OR TITLE-ABS-KEY(suppurative hidradenitis) OR TITLE-ABS-KEY(melanoma) OR TITLE-ABS-KEY(non melanoma skin cancer) OR TITLE-ABS-KEY(acne) OR TITLE-ABS-KEY(lichen sclerosus) OR TITLE-ABS-KEY(pityriasis rubra pilaris) OR TITLE-ABS-KEY(pemphigus) OR TITLE-ABS-KEY(skin disease) OR TITLE-ABS-KEY(rosaceae) OR TITLE-ABS-KEY(scleroderma) OR TITLE-ABS-KEY(cinca syndrome) OR TITLE-ABS-KEY(hyperhidrosis) OR TITLE-ABS-KEY(erythropoietic protoporphyria) OR TITLE-ABS-KEY(anca associated vasculitis))) or ((TITLE-ABS-KEY(seborrheic dermatitis) OR TITLE-ABS-KEY(herpes simplex)OR TITLE-ABS-KEY(sjogren syndrome))))  |

**Database**: MEDLINE

|  |
| --- |
| ('psoriasis'/exp OR psoriasis OR 'atopic dermatitis' OR 'alopecia' OR 'contact dermatitis' OR 'vitiligo' OR 'graft versus host reaction' OR 'lichen planus' OR 'pyoderma gangrenosum' OR 'pruritus' OR (eosinofilic AND annulare AND erythema) OR 'male type alopecia' OR 'proteasome associated autoinflammatory syndrome' OR 'sting associated vasculopathy with onset in infancy' OR 'chronic atypical neutrophilic dermatosis with lipodystrophy and elevated temperature syndrome' OR 'hand dermatitis' OR 'discoid lupus erythematosus' OR 'mucocutaneous candidiasis' OR (urticaria AND chronic) OR 'suppurative hidradenitis' OR 'melanoma' OR 'non melanoma skin cancer' OR 'acne' OR 'lichen sclerosus et atrophicus' OR 'pityriasis rubra pilaris' OR 'pemphigus' OR 'skin disease' OR 'rosaceae' OR 'scleroderma' OR 'cinca syndrome' OR 'hyperhidrosis' OR 'erythropoietic protoporphyria' OR 'anca associated vasculitis' OR 'seborrheic dermatitis' OR 'herpes simplex' OR 'sjoegren syndrome') AND ('tofacitinib' OR 'baricitinib' OR 'ruxolitinib' OR 'oclacitinib' OR 'upadacitinib' OR 'delgocitinib' OR 'itacitinib' OR 'momelotinib' OR peficitinib OR 'decernotinib' OR 'fedratinib' OR 'pacritinib' OR 'filgotinib' OR 'gandotinib' OR 'solcitinib' OR 'lestaurtinib' OR 'janus kinase inhibitor') AND [4-10-2018]/sd NOT [26-4-2019]/sd |

**ClinicalTrials.gov**

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| --- |
| 1.-Tofacitinib and psoriasis/2.-Ruxolitinib and psoriasis/3.-peficitinib and psoriasis/4.-ASP015k and psoriasis/5.-baricitinib and psoriasis/6.-solcitinib and psoriasis/7.-itacitanib and psoriasis/8.-deucravacitanib and psoriasis/9.-BMS986165 and psoriasis/10.-Abrocitinib and psoriasis/11.-PF-04965842 and psoriasis/12.-brepocitinib and psoriasis/13.-PF-06700841 and psoriasis. March 2021 |

**Table S5. List of included studies.**

|  |  |
| --- | --- |
| **ID** | **Article reference** |
| 1 | Valenzuela F., Korman N.J., Bissonnette R., Bakos N., Tsai T.-F., Harper M.K., Ports W.C., Tan H., Tallman A., Valdez H., Gardner A.C.Tofacitinib in patients with moderate-to-severe chronic plaque psoriasis: long-term safety and efficacy in an open-label extension study. British Journal of Dermatology (2018) 179:4 (853-862). Date of Publication: 1 Oct 2018 |
| 2 | Fitz L., Zhang W., Soderstrom C., Fraser S., Lee J., Quazi A., Wolk R., Mebus C.A., Valdez H., Berstein G.Association between serum interleukin-17A and clinical response to tofacitinib and etanercept in moderate to severe psoriasis. Clinical and Experimental Dermatology (2018) 43:7 (790-797). Date of Publication: 1 Oct 2018 |
| 3 | Ma G., Xie R., Strober B., Langley R., Ito K., Krishnaswami S., Wolk R., Valdez H., Rottinghaus S., Tallman A., Gupta P.Pharmacokinetic Characteristics of tofacitinib in Adult Patients With Moderate to Severe Chronic Plaque Psoriasis. Clinical Pharmacology in Drug Development (2018) 7:6 (587-596). Date of Publication: 1 Aug 2018 |
| 4 | Schmieder G.J., Draelos Z.D., Pariser D.M., Banfield C., Cox L., Hodge M., Kieras E., Parsons-Rich D., Menon S., Salganik M., Page K., Peeva E.Efficacy and safety of the Janus kinase 1 inhibitor PF-04965842 in patients with moderate-to-severe psoriasis: phase II, randomized, double-blind, placebo-controlled study. British Journal of Dermatology (2018) 179:1 (54-62). Date of Publication: 1 Jul 2018 |
| 5 | Winthrop K.L., Korman N., Abramovits W., Rottinghaus S.T., Tan H., Gardner A., Mukwaya G., Kaur M., Valdez H. T-cell–mediated immune response to pneumococcal conjugate vaccine (PCV-13) and tetanus toxoid vaccine in patients with moderate-to-severe psoriasis during tofacitinib treatment. Journal of the American Academy of Dermatology (2018) 78:6 (1149-1155.e1). Date of Publication: 1 Jun 2018 |
| 6 | Soriano E.R., Madariaga H., Castañeda O., Citera G., Schneeberger E.E., Cardiel M.H., Hendrikx T., Graham D., Shi H., Ponce De Leon D. Liver enzyme abnormalities after tofacitinib treatment in patients with hepatic steatosis from the rheumatoid arthritis, psoriatic arthritis and psoriasis clinical programmes Annals of the Rheumatic Diseases (2018) 77 Supplement 2 (593-594). Date of Publication: 1 Jun 2018 |
| 7 | Mease P.J., Kremer J., Cohen S., Curtis J.R., Charles-Schoeman C., Loftus E.V., Greenberg J., Palmetto N., Kanik K.S., Graham D., Wang C., Biswas P., Chan G., DeMasi R., Valdez H., Hendrikx T., Jones T.V. Incidence of thromboembolic events in the tofacitinib rheumatoid arthritis, psoriasis, psoriatic arthritis and ulcerative colitis development programmes. Annals of the Rheumatic Diseases (2018) 77 Supplement 2 (983). Date of Publication: 1 Jun 2018 |
| 8 | Kuo C.-M., Tung T.-H., Wang S.-H., Chi C.-C. Efficacy and safety of tofacitinib for moderate-to-severe plaque psoriasis: a systematic review and meta-analysis of randomized controlled trials. Journal of the European Academy of Dermatology and Venereology (2018) 32:3 (355-362). Date of Publication: 1 Mar 2018 |
| 9 | Dasic G., Jones T., Frajzyngier V., Rojo R., Madsen A., Valdez H. Safety signal detection and evaluation in clinical development programs: A case study of tofacitinib. Pharmacology Research and Perspectives (2018) 6:1 Article Number: e00371. Date of Publication: 1 Feb 2018 |
| 10 | Kim J., Tomalin L., Lee J., Fitz L.J., Berstein G., Correa-da Rosa J., Garcet S., Lowes M.A., Valdez H., Wolk R., Suarez-Farinas M., Krueger J.G. Reduction of Inflammatory and Cardiovascular Proteins in the Blood of Patients with Psoriasis: Differential Responses between tofacitinib and Etanercept after 4 Weeks of Treatment. Journal of Investigative Dermatology (2018) 138:2 (273-281). Date of Publication: 1 Feb 2018 |
| 11 | Ständer S., Luger T.A., Cappelleri J.C., Bushmakin A.G., Mamolo C., Zielinski M.A., Tallman A.M., Yosipovitch G. Efficacy of Systemic Treatments of Psoriasis on Pruritus: A Systemic Literature Review and Meta-Analysis. Journal of Investigative Dermatology (2018) 138:1 (38-45). Date of Publication: 1 Jan 2018 |
| 12 | Ständer S., Luger T.A., Cappelleri J.C., Bushmakin A.G., Mamolo C., Zielinski M.A., Tallman A.M., Yosipovitch G. Validation of the itch severity item as a measurement tool for pruritus in patients with psoriasis: Results from a phase 3 tofacitinib program. Acta Dermato-Venereologica (2018) 98:3 (340-345). Date of Publication: 2018 |
| 13 | Strober B.E., Gottlieb A.B., van de Kerkhof P.C.M., Puig L., Bachelez H., Chouela E., Imafuku S., Thaçi D., Tan H., Valdez H., Gupta P., Kaur M., Frajzyngier V., Wolk R. Benefit–risk profile of tofacitinib in patients with moderate-to-severe chronic plaque psoriasis: pooled analysis across six clinical trials. British Journal of Dermatology (2018). Date of Publication: 2018 |
| 14 | Huang F., Luo Z.-C. Adverse drug events associated with 5mg versus 10mg tofacitinib (Janus kinase inhibitor) twice daily for the treatment of autoimmune diseases: A systematic review and meta-analysis of randomized controlled trials. Clinical Rheumatology (2018). Date of Publication: 2018 |
| 15 | Sbidian E., Chaimani A., Garcia-Doval I., Do G., Hua C., Mazaud C., Droitcourt C., Hughes C., Ingram J.R., Naldi L., Chosidow O., Le Cleach L. Systemic pharmacological treatments for chronic plaque psoriasis: A network meta-analysis. Cochrane Database of Systematic Reviews (2017) 2017:12 Article Number: CD011535. Date of Publication: 22 Dec 2017 |
| 16 | Checchio T., Ahadieh S., Gupta P., Mandema J., Puig L., Wolk R., Valdez H., Tan H., Krishnaswami S., Tallman A., Kaur M., Ito K. Quantitative Evaluations of Time-Course and Treatment Effects of Systemic Agents for Psoriasis: A Model-Based Meta-Analysis. Clinical Pharmacology and Therapeutics (2017) 102:6 (1006-1016). Date of Publication: 1 Dec 2017 |
| 17 | Abe M., Nishigori C., Torii H., Ihn H., Ito K., Nagaoka M., Isogawa N., Kawaguchi I., Tomochika Y., Kobayashi M., Tallman A.M., Papp K.A. Tofacitinib for the treatment of moderate to severe chronic plaque psoriasis in Japanese patients: Subgroup analyses from a randomized, placebo-controlled phase 3 trial. Journal of Dermatology (2017) 44:11 (1228-1237). Date of Publication: 1 Nov 2017 |
| 18 | Kong B.Y., Immaneni S., Woodruff T.K., Paller A.S., Xu S. The potential impact on future fertility for biologics and emerging therapies for psoriasis and atopic dermatitis. Journal of Investigative Dermatology (2017) 136:10 (B4). Date of Publication: 1 Oct 2017 |
| 19 | Zhang J., Tsai T.-F., Lee M.-G., Zheng M., Wang G., Jin H., Gu J., Li R., Liu Q., Chen J., Tu C., Qi C., Zhu H., Ports W.C., Crook T. The efficacy and safety of Tofacitinib in Asian patients with moderate to severe chronic plaque psoriasis: A Phase 3, randomized, double-blind, placebo-controlled study. Journal of Dermatological Science (2017) 88:1 (36-45). Date of Publication: 1 Oct 2017 |
| 20 | Bachelez H., Griffiths C.E.M., Papp K., Hall S., Merola J.F., Feldman S.R., Khraishi M., Tallman A., Tan H., Hsu M.-A. Effect of tofacitinib on efficacy and patient-reported outcomes in psoriasis patients with baseline psoriatic arthritis: A pooled analysis of 2 phase 3 studies. Arthritis and Rheumatology (2017) 69 Supplement 10. Date of Publication: 1 Oct 2017 |
| 21 | Jin T., Sun Z., Chen X., Wang Y., Li R., Ji S., Zhao Y.Serum Human Beta-Defensin-2 Is a Possible Biomarker for Monitoring Response to JAK Inhibitor in Psoriasis Patients. Dermatology (2017) 233:2-3 (164-169). Date of Publication: 1 Oct 2017 |
| 22 | Wolk R., Armstrong E.J., Hansen P.R., Thiers B., Lan S., Tallman A.M., Kaur M., Tatulych S.Effect of Tofacitinib on lipid levels and lipid-related parameters in patients with moderate to severe psoriasis. Journal of Clinical Lipidology (2017) 11:5 (1243-1256). Date of Publication: 1 Sep 2017 |
| 23 | Brenaut E., Théréné C., Barnetsche T., Misery L.Efficacy of systemic treatments of psoriasis on pruritus: A systemic literature review and meta-analysis. Acta Dermato-Venereologica (2017) 97:8 (1016). Date of Publication: 1 Sep 2017 |
| 24 | Winthrop K.L., Lebwohl M., Cohen A.D., Weinberg J.M., Tyring S.K., Rottinghaus S.T., Gupta P., Ito K., Tan H., Kaur M., Egeberg A., Mallbris L., Valdez H.Herpes zoster in psoriasis patients treated with tofacitinib. Journal of the American Academy of Dermatology (2017) 77:2 (302-309). Date of Publication: 1 Aug 2017 |
| 25 | Merola J.F., Elewski B., Tatulych S., Lan S., Tallman A., Kaur M.Efficacy of tofacitinib for the treatment of nail psoriasis: Two 52-week, randomized, controlled phase 3 studies in patients with moderate-to-severe plaque psoriasis. Journal of the American Academy of Dermatology (2017) 77:1 (79-87.e1). Date of Publication: 1 Jul 2017 |
| 26 | Hutmacher M.M., Papp K., Krishnaswami S., Ito K., Tan H., Wolk R., Valdez H., Mebus C., Rottinghaus S.T., Gupta P.Evaluating Dosage Optimality for tofacitinib, an Oral Janus Kinase Inhibitor, in Plaque Psoriasis, and the Influence of Body Weight. CPT: Pharmacometrics and Systems Pharmacology (2017) 6:5 (322-330). Date of Publication: 1 May 2017 |
| 27 | Mrowietz U., Gerdes S., Gläser R., Schröder O.Successful treatment of refractory alopecia areata universalis and psoriatic arthritis, but not of plaque psoriasis with tofacitinib in a young woman. Acta Dermato-Venereologica (2017) 97:2 (283-284). Date of Publication: 1 Feb 2017 |
| 28 | Griffiths C.E.M., Vender R., Sofen H., Kircik L., Tan H., Rottinghaus S.T., Bachinsky M., Mallbris L., Mamolo C.Effect of tofacitinib withdrawal and re-treatment on patient-reported outcomes: results from a Phase 3 study in patients with moderate to severe chronic plaque psoriasis. Journal of the European Academy of Dermatology and Venereology (2017) 31:2 (323-332). Date of Publication: 1 Feb 2017 |
| 29 | Wang T.-S., Tsai T.-F. Managing Scalp Psoriasis: An Evidence-Based Review. American Journal of Clinical Dermatology (2017) 18:1 (17-43). Date of Publication: 1 Feb 2017 |
| 30 | Tan H., Valdez H., Griffiths C.E.M., Mrowietz U., Tallman A., Wolk R., Gordon K.Early clinical response to tofacitinib treatment as a predictor of subsequent efficacy: Results from two phase 3 studies of patients with moderate-to-severe plaque psoriasis. Journal of Dermatological Treatment (2017) 28:1 (3-7). Date of Publication: 2 Jan 2017 |
| 31 | Feldman S.R., Thaçi D., Gooderham M., Augustin M., de la Cruz C., Mallbris L., Buonanno M., Tatulych S., Kaur M., Lan S., Valdez H., Mamolo C.Tofacitinib improves pruritus and health-related quality of life up to 52 weeks: Results from 2 randomized phase III trials in patients with moderate to severe plaque psoriasis. Journal of the American Academy of Dermatology (2016) 75:6 (1162-1170.e3). Date of Publication: 1 Dec 2016 |
| 32 | Wu J.J., Strober B.E., Hansen P.R., Ahlehoff O., Egeberg A., Qureshi A.A., Robertson D., Valdez H., Tan H., Wolk R.Effects of tofacitinib on cardiovascular risk factors and cardiovascular outcomes based on phase III and long-term extension data in patients with plaque psoriasis. Journal of the American Academy of Dermatology (2016) 75:5 (897-905). Date of Publication: 1 Nov 2016 |
| 33 | Papp K.A., Bissonnette R., Gooderham M., Feldman S.R., Iversen L., Soung J., Draelos Z., Mamolo C., Purohit V., Wang C., Ports W.C.Treatment of plaque psoriasis with an ointment formulation of the Janus kinase inhibitor, tofacitinib: A Phase 2b randomized clinical trial. BMC Dermatology (2016) 16:1 Article Number: 15. Date of Publication: 3 Oct 2016 |
| 34 | Valenzuela F., Paul C., Mallbris L., Tan H., Papacharalambous J., Valdez H., Mamolo C.Tofacitinib versus etanercept or placebo in patients with moderate to severe chronic plaque psoriasis: patient-reported outcomes from a Phase 3 study. Journal of the European Academy of Dermatology and Venereology (2016) 30:10 (1753-1759). Date of Publication: 1 Oct 2016 |
| 35 | Asahina A., Etoh T., Igarashi A., Imafuku S., Saeki H., Shibasaki Y., Tomochika Y., Toyoizumi S., Nagaoka M., Ohtsuki M.Oral tofacitinib efficacy, safety and tolerability in Japanese patients with moderate to severe plaque psoriasis and psoriatic arthritis: A randomized, double-blind, phase 3 study. Journal of Dermatology (2016) 43:8 (869-880). Date of Publication: 1 Aug 2016 |
| 36 | Clowse M.E.B., Feldman S.R., Isaacs J.D., Kimball A.B., Strand V., Warren R.B., Xibillé D., Chen Y., Frazier D., Geier J., Proulx J., Marren A.Pregnancy Outcomes in the tofacitinib Safety Databases for Rheumatoid Arthritis and Psoriasis. Drug Safety (2016) 39:8 (755-762). Date of Publication: 1 Aug 2016 |
| 37 | Wolk R., Langley R., Cohen A., Foley P., Griffiths C., Lebwohl M., Leonardi C., Winthrop K., Proulx J., Rottinghaus S., Thompson J., Tatulych S., Mallbris L., Swanson R. Safety of tofacitinib, an oral Janus kinase inhibitor: Integrated data analysis from the global chronic plaque psoriasis clinical trials. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (72-73). Date of Publication: 1 Jul 2016 |
| 38 | Strober B., Checchio T., Gupta P., Mandema J., Wolk R., Valdez H., Tan H., Puig L., Krishnaswami S., Tallman A., Kaur M., Ito K.A dose-response model-based meta-analysis to compare tofacitinib to other psoriasis treatments. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (94-95). Date of Publication: 1 Jul 2016 |
| 39 | Lambert J., Strohal R., De La Cruz C., Thaçi D., Bachelez H., Iversen L., Rottinghaus S., Tallman A., Tan H., Berstein G.Predictors of response to tofacitinib or etanercept in a Phase 3 randomised, non-inferiority study in patients with moderate to severe chronic plaque psoriasis. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (78). Date of Publication: 1 Jul 2016 |
| 40 | Winthrop K., Korman N., Abramovits W., Valdez H., Rottinghaus S., Tan H., Gardner A., Mukwaya G., Kaur M.T cell-mediated immune response to pneumococcus and tetanus toxoid vaccines in patients with moderate to severe psoriasis following longterm oral tofacitinib treatment. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (81-82). Date of Publication: 1 Jul 2016 |
| 41 | Kaur M., Merola J., Tatulych S., Mamolo C., Lan S.Efficacy of tofacitinib for the treatment of nail psoriasis: Two 52-week Phase 3 studies in patients with moderate to severe plaque psoriasis. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (81). Date of Publication: 1 Jul 2016 |
| 42 | Busard C., Pasch M., Oudshoorn S., De Vries A.C., Hooft L., Spuls P.Interventions for nail psoriasis. Journal of the European Academy of Dermatology and Venereology (2016) 30 Supplement 6 (100-101). Date of Publication: 1 Jul 2016 |
| 43 | Bing N., Zhou H.Y., Zhang B.H., Nagaoka M., Valdez H., Vincent M., Clark J.D.Genome-wide trans-ancestry meta-analysis of herpes zoster in rheumatoid arthritis and psoriasis patients treated with tofacitinib. Annals of the Rheumatic Diseases (2016) 75 Supplement 2 (256-257). Date of Publication: 1 Jun 2016 |
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**Table S6. List of excluded studies and criteria for exclusion.**

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| **Article** | **Exclusion criteria** |
| Liver enzyme abnormalities after tofacitinib treatment in patients with hepatic steatosis from the rheumatoid arthritis, psoriatic arthritis and psoriasis clinical programmes. Soriano E.R., Madariaga H., Castañeda O., Citera G., Schneeberger E.E., Cardiel M.H., Hendrikx T., Graham D., Shi H., Ponce De Leon D. Annals of the Rheumatic Diseases (2018) 77 Supplement 2 (593-594). Date of Publication: 1 Jun 2018 | No scientific review |
| Incidence of thromboembolic events in the tofacitinib rheumatoid arthritis, psoriasis, psoriatic arthritis and ulcerative colitis development programmes. Mease P.J., Kremer J., Cohen S., Curtis J.R., Charles-Schoeman C., Loftus E.V., Greenberg J., Palmetto N., Kanik K.S., Graham D., Wang C., Biswas P., Chan G., DeMasi R., Valdez H., Hendrikx T., Jones T.V. Annals of the Rheumatic Diseases (2018) 77 Supplement 2 (983). Date of Publication: 1 Jun 2018 | No scientific review |
| Strober B.E., Gottlieb A.B., van de Kerkhof P.C.M., Puig L., Bachelez H., Chouela E., Imafuku S., Thaçi D., Tan H., Valdez H., Gupta P., Kaur M., Frajzyngier V., Wolk R.Benefit–risk profile of tofacitinib in patients with moderate-to-severe chronic plaque psoriasis: pooled analysis across six clinical trials. British Journal of Dermatology (2019) 180:1 (67-75). Date of Publication: 1 Jan 2019 | No scientific Review |
| Safety signal detection and evaluation in clinical development programs: A case study of tofacitinib. Dasic G., Jones T., Frajzyngier V., Rojo R., Madsen A., Valdez H. Pharmacology Research and Perspectives (2018) 6:1 Article Number: e00371. Date of Publication: 1 Feb 2018. | No scientific review |
| Efficacy of Systemic Treatments of Psoriasis on Pruritus: A ID Systemic Literature Review and Meta-Analysis. Théréné C., Brenaut E., Barnetche T., Misery L. Journal of Investigative Dermatology (2018) 138:1 (38-45). Date of Publication: 1 Jan 2018 | Pruritus  |
| Validation of the itch severity item as a measurement tool for pruritus in patients with psoriasis: Results from a phase 3 tofacitinib program. Ständer S., Luger T.A., Cappelleri J.C., Bushmakin A.G., Mamolo C., Zielinski M.A., Tallman A.M., Yosipovitch G. Acta Dermato-Venereologica (2018) 98:3 (340-345). Date of Publication: 2018 | No scientific review |
| Benefit–risk profile of tofacitinib in patients with moderate-to-severe chronic plaque psoriasis: pooled analysis across six clinical trials. Strober B.E., Gottlieb A.B., van de Kerkhof P.C.M., Puig L., Bachelez H., Chouela E., Imafuku S., Thaçi D., Tan H., Valdez H., Gupta P., Kaur M., Frajzyngier V., Wolk R. British Journal of Dermatology (2018). Date of Publication: 2018 | No scientific review |
| **A**dverse drug events associated with 5mg versus 10mg tofacitinib (Janus kinase inhibitor) twice daily for the treatment of autoimmune diseases: A systematic review and meta-analysis of randomized controlled trials. Huang F., Luo Z.-C. Clinical Rheumatology (2018). Date of Publication: 2018 | No scientific review |
| Malik S.U., Muzaffar K., Bilal J., Faridi W., Muddassir S. Serious infections among psoriatic arthritis patients taking TNF inhibitors versus non-TNF biologics: A systematic review and network meta-analysis. Arthritis and Rheumatology (2018) 70 Supplement 9 (1815-1816). Date of Publication: 1 Sep 2018 | psoriatic arthritis |
| Quantitative Evaluations of Time-Course and Treatment Effects of Systemic Agents for Psoriasis: A Model-Based Meta-Analysis. Checchio T., Ahadieh S., Gupta P., Mandema J., Puig L., Wolk R., Valdez H., Tan H., Krishnaswami S., Tallman A., Kaur M., Ito K. Clinical Pharmacology and Therapeutics (2017) 102:6 (1006-1016). Date of Publication: 1 Dec 2017 | Non scientific review |
| Tofacitinib for the treatment of moderate to severe chronic plaque psoriasis in Japanese patients: Subgroup analyses from a randomized, placebo-controlled phase 3 trial. Abe M., Nishigori C., Torii H., Ihn H., Ito K., Nagaoka M., Isogawa N., Kawaguchi I., Tomochika Y., Kobayashi M., Tallman A.M., Papp K.A. Journal of Dermatology (2017) 44:11 (1228-1237). Date of Publication: 1 Nov 2017 | No scientific review |
| Hashimoto T., Sakai K., Sanders K.M., Yosipovitch G., Akiyama T. Antipruritic effects of janus kinase inhibitor tofacitinib in a mouse model of psoriasis. Acta Dermato-Venereologica (2019) 99:3 (298-303). Date of Publication: 2019 | Non human |
| Effect of tofacitinib on efficacy and patient-reported outcomes in psoriasis patients with baseline psoriatic arthritis: A pooled analysis of 2 phase 3 studies. Bachelez H., Griffiths C.E.M., Papp K., Hall S., Merola J.F., Feldman S.R., Khraishi M., Tallman A., Tan H., Hsu M.-A. Arthritis and Rheumatology (2017) 69 Supplement 10. Date of Publication: 1 Oct 2017 | Non scientific review |

**0Table S7. Metadata article-references**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ID paper** | **Treatment****Systemic/****topical** | **Publication****Type/ Journal medical****speciality**  | **National-multinational****Uni/****multicentric** | **Total article/****Dermatology /Pharma/****Research inst/****authors** | **Interest conflict** | **Funding** |
| 1 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric(9) | 11,3,6,0Pharma | 11 | Pfizer |
| 2 | TofacitinibSystemic | Full textdermatology | EEUUMulticentric(5) | 10,0,6,0Pharma | 10 | Pfizer |
| 3 | Tofacitinibsystemic | Full textpharmacology | Multinational-EEUUMulticentric(7) | 11,0,9,2Pharma | 11 | Pfizer |
| 4 | Abrocitinib systemic | Full textdermatology | EEUUMulticentric 4) | 12,1,9,2Pharma | 12 | Pfizer |
| 5 | Tofacitinibsystemic | Full textdermatology | EEUUMulticentric(7) | 9,1,6,2Pharma | 9 | Pfizer |
| 6 | Tofacitinibsystemic | Abstract congressrheumatology | Multinational-ArgentinaMulticentric(8) | 10,0,3,5research inst | 6 | Pfizer |
| 7 | Tofacitinibsystemic | Abstract Congressrheumatology | EEUUMulticentric(10) | 17,0,10,7Pharma | 17 | Pfizer |
| 8 | Tofacitinibsystemic | Full textdermatology | TaiwanMulticentric(3) | 4,1,0,3research inst | 2 | Chang Gung Memorial Hospital, Chiayi CMRPG6D0353 |
| 9 | Tofacitinibsystemic | Full textpharmacology | EEUUMulticentric (3) | 6,0,6,0Pharma | 3 | Pfizer |
| 10 | Tofacitinibsystemic | Full textdermatology | EEUUMulticentric (6) | 11,5,6,0Dermatology | 10 | National Psoriasis Foundation Discovery Grant |
| 11 | Tofacitinibsystemic | Full textdermatology | FranceMulticentric (2) | 4,0,2,1Dermatology | 2 | NR |
| 12 | Tofacitinibsystemic | Full textdermatology | Multinational-germanyMulticentric (5) | 8,3,5,0Pharma | 2 | Pfizer |
| 13 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric(10) | 14,3,6,3Pharma | 12 | Pfizer |
| 14 | Tofacitinibsystemic | Full textrheumatology | Chinaunicentric | 2,0,0,0Internal medicine | 0 | National Natural Science Foundation of China (No. 81560046, 81760057) and Guangxi Natural Science Foundation (No. 2016GXNSFAE380002). |
| 15 | Tofacitinibsystemic | Full textdermatology | Multinational-FranceMulticentric (8) | 12,5,0,6Dermatology | 1 | NR |
| 16 | Tofacitinibsystemic | Full textpharmacology | Multinational-EEUUMulticentric (5) | 12,1,9,1Pharma | 12 | Pfizer |
| 17 | Tofacitinibsystemic | Full textdermatology | Multinational-JapanMulticentric (8) | 12,2,6,3Pharma | 8 | Pfizer |
| 18 | TofacitinibRuxolitinibsystemic | Abstact Congressdermatology | EEUUMulticentric (2) | 5,0,0,0Research insterest inst | NR | NR |
| 19 | Tofacitinibsystemic | Full textdermatology | Multinational-ChinaMulticentric (15) | 15,11,4,0Dermatology | 15 | Pfizer |
| 20 | Tofacitinibsystemic | AbstractCongressrheumatology | Multinational-FranceMulticentric(9) | 10,1,3,6Research insterest | 10 | NR |
| 21 | Tofacitinibsystemic | Full textdermatology | ChinaMulticentric (2) | 6/6/0/0Dermatology | 0 | National Natural Science Foundation of China  |
| 22 | Tofacitinibsystemic | Full textInternal medicine | Multinational-EEUUMulticentric (6) | 8/1/5/2Pharma | 8 | Pfizer |
| 23 | Tofacitinibsystemic | Full Textdermatology | FranceUnicentric | 4/4/0/0Dermatology | NR | NR |
| 24 | Tofacitinibsystemic | Full Textdermatology | MultinationalEEUUMulticentric (13) | 13/2/6/3Pharma | 12 | Pfizer |
| 25 | Tofacitinibsystemic | Full textdermatology | EEUUMulticentrict (6) | 6/0/4/2pharma | 6 | Pfizer |
| 26 | Tofacitinibsystemic | Full textpharmacology | MultionationalCanadaMulticentric (3) | 10/0/7/3Pharma | 10 | Pfizer |
| 27 | Tofacitinibsystemic | Full textdermatology | Germanyunicentric | 4/3/0/1Dermatology | 0 | NR |
| 28 | Tofacitinibsystemic | Full text dermatology | MultinationalEEUUMulticentric (8) | 9/1/5/2Pharma | 9 | Pfizer |
| 29 | Tofacitinibsystemic | Full textdermatology | TaiwanMulticentric (2) | 2/2/0/0Dermatology | 2 | NR |
| 30 | Tofacitinibsystemic | Full text dermatology | MultinationalEEUUMulticentric (5) | 7/3/4/0Pharma | 7 | Pfizer |
| 31 | Tofacitinibsystemic | Full textdermatology | MultinationalEEUUMulticentric (9) | 12/2/7/3Pharma | 12 | Pfizer |
| 32 | Tofacitinibsystemic | Full textdermatology | MultinationalEEUUMulticentric (9) | 10/3/4/3Pharma | 10 | Pfizer |
| 33 | Tofacitinibsystemic | Full textdermatoogy | MultinationalEEUUMulticentric (9) | 11/3/4/4pharma-research Inst | 11 | Pfizer |
| 34 | Tofacitinibsystemic | Full textdermatology | MultinationalEEUUMulticentric (5) | 7/1/5/1pharma | 7 | Pfizer |
| 35 | Tofacitinibsystemic | Full textdermatology | JapanMulticentric (7) | 10/6/4/0Dermatology | 9 | Pfizer |
| 36 | Tofacitinibsystemic | Full textdermatology | MultinationalEEUUMulticentric (11) | 12/3/5/3Pharma | 12 | Pfizer |
| 37 | Tofacitinibsystemic | Abstract congressdermatolgy | MultinaitonalEEUUMulticentric (11) | 14/3/7/7PharmaResearch inst | 14 | Pfizer |
| 38 | Tofacitinibsystemic | Abstract congressdermatology | MultinationalEEUUMulticentric (9) | 12/2/10/0Pharma | 12 | NR |
| 39 | Tofacitinibsystemic | Abstract congressdermatology | MultinationalEEUUMulticentric (9) | 10/3/3/4University | NR | Pfizer |
| 40 | Tofacitinibsystemic | Abstract congressdermatology | EEUUMulticentric (9) | 9/1/6/2Pharma | 9 | NR |
| 41 | Tofacitinibsystemic | AbstractCongressdermatology | EEUUMulticentric (3) | 5/1/3/1Pharma | 5 | NR |
| 42 | Tofacitinibsystemic | Abstract Congressdermatology | NetherlandsMulticentric (3) | 6/5/0/1Dermatology | 2 | NR |
| 43 | Tofacitinibsystemic | Abstract Congressrheumatology | MultinationalEEUUMulticentric (4) | 8/0/8/0Pharma | 8 | Pfizer |
| 44 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-EEUUMulticentric (4) | 8/0/5/3Pharma | NR | Pfizer |
| 45 | Tofacitinibsystemic | Full textdermatology | Multinational-CanadaMulticentric (10) | 16/3/7/6Pharma | 16 | Pfizer |
| 46 | Tofacitinibsystemic | Abstract Congressdermatology | Multinational-EEUUMulticentric (7) | 10/1/6/3Pharma | NR | Pfizer |
| 47 | solcitinib (GSK2586184)systemic | Full textdermatology | Multinational-EEUUMulticentric (5) | 12/2/10/0Pharma | 12 | GlaxoSmithKline |
| 48 | Tofacitinibsystemic | Abstract Congressdermatology | EEUUMulticentric (3) | 6/0/5/1/0Pharma | NR | Pfizer |
| 49 | Tofacitinibsystemic | Abstract Congressdermatology | Multinational-EEUUMulticentric (9) | 10/2/4/4PharmaResearch insterest | NR | Pfizer |
| 50 | Tofacitinibsystemic | Abstract Congressdermatology | EEUUMulticentric (3) | 5/0/4/1Pharma | NR | Pfizer |
| 51 | Tofacitinibsystemic | AbstractCongressdermatology | EEUUMulticentric (8) | 10/1/6/3Pharma | NR | Pfizer |
| 52 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-GermanyMulticentric (6) | 10/0/6/4Pharma | NR | Pfizer |
| 53 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (14) | 16/2/5/9Research insterest |  |  |
| 54 | Tofacitinibsystemic | Full textdermatology | EEUUMulticentric (4) | 15/0/10/5Pharma | 11 | Pfizer |
| 55 | Tofacitinibsystemic | Abstract congressPharmacology | Multinational-EEUUMulticentric (5) | 11/1/8/2Pharma | NR | NR |
| 56 | Tofacitinibsystemic | Abstract congressdermatology | Multinational-CanadaMulticentric (8) | 15/0/8/7Pharma | 15 | NR |
| 57 | Tofacitinibsystemic | Abstract congressdermatology | Multinational-CanadaMultientric (10) | 14/0/7/7Pharma Research insterest | 14 | NR |
| 58 | Tofacitinibsystemic | Full textdermatology | Multinational-CanadaMulticentric (10) | 14/0/5/9Research insterest | 14 | pfizer |
| 59 | Tofacitinibsystemic | Abstract congressdermatology | EEUUMulticentric (3) | 6/0/5/1Pharma | 6 | NR |
| 60 | Tofacitinibsystemic | Abstract congressdermatology | Multinational-CanadaMulticentric (5) | 6/0/3/3PharmaResearch insterest | 5 | NR |
| 61 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-EEUUMulticentric (5) | 12/0/8/4Pharma | 12 | NR |
| 62 | Tofacitinibsystemic | Abstract Congressdermatology | EEUUMulticentric (9) | 13/0/8/5Pharma | 13 | NR |
| 63 | Baricitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (3) | 6/1/3/2Pharma | 6 | NR |
| 64 | peficitinib (ASP015K)systemic | Full textdermatology | CanadaMulticentric (4) | 8/0/4/4Pharma | 8 | Astellas |
| 65 | Tofacitinibsystemic | Abstract Congressdermatology | EEUUMulticentric (3) | 10/0/10/0Pharma | NR | NR |
| 66 | Tofacitinibsystemic | Letterdermatology | EEUUUnicentric | 3/3/0/0Dermatology |  |  |
| 67 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (4) | 9/3/6/0Pharma | 9 | Pfizer |
| 68 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (9) | 14/1/8/5Pharma | 14 | Pfizer |
| 69 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-EEUUMulticentric (8) | 13/1/5/7University | NR | NR |
| 70 | Tofacitinibsystemic | AbstractCongressdermatolofy | Multinational-EEUUMulticentric (9) | 14/3/8/3Pharma | NR | NR |
| 71 | Tofacitinibsystemic | AbstractCongressdermatolofy | EEUUMulticentric (4) | 7/0/5/2Pharma | NR | Pfizer |
| 72 | Tofacitinibsystemic | Abstract Congressdermatology | Multinational-EEUUMulticentric (3) | 5/0/3/2Pharma |  |  |
| 73 | Tofacitinibsystemic | Letterdermatology | EEUUMulticentric (2) | 2/2/0/0Dermatology | 2 | Galderma Laboratories, L.P |
| 74 | Tofacitinibsystemic | Full textdermatology | EEUUunicentric | 3/0/3/0Pharma | 3 | Pfizer |
| 75 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (9) | 15/4/7/4Pharma | 15 | Pfizer |
| 76 | Tofacitinibsystemic | Full textdermatology | EEUUunicentric | 4/0/4/0Pharma | 4 | Pfizer |
| 77 | Tofacitinibsystemic | Abstract congressdermatology | Multinational-EEUUMulticentric (5) | 15/0/11/4Pharma | 4 | Pfizer |
| 78 | Tofacitinibsystemic | AbstractCongressdermatology | Chinaunicentric | 2/0/2/0Dermatology | NR | NR |
| 79 | Baricitinibsystemic | Abstract Congressdermatology | Multinational-EEUUMulticentric (3) | 6/0/4/2Pharma | NR | Eli Lilly |
| 80 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (3) | 5/0/1/4Pharma | 4 | Pfizer |
| 81 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (4) | 6/1/3/2Pharma |  |  |
| 82 | Tofacitinibsystemic | Full textdermatology | EEUUUnicentric | 2/2/0/0Dermatology | NR | NR |
| 83 | Tofacitinibsystemic | Full textdermatology | EEUUMulticentric (3) | 3/3/0/0Dermatology | 1 | NR |
| 84 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (8) | 11/2/7/2Pharma | 11 | Pfizer |
| 85 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-EEUUMulticentric (8) | 14/2/7/5Pharma | 13 | NR |
| 86 | Tofacitinib topical | Abstract Congressdermatology | Multinational-EEUUMulticentric (4) | 8/0/5/3Pharma | NR | NR |
| 87 | Tofacitinibsystemic | Full textdermatology | Multinational-EEUUMulticentric (7) | 10/0/5/5Pharma | 10 | Pfizer |
| 88 | Tofacitinibsystemic | AbstractCongressdermatology | Multinational-EEUUMulticentric (5) | 7/0/4/3Pharma | NR | NR |
| 89 | Tofacitinibtopical | AbstractCongressdermatolofy | Multinational-EEUUMulticentric (4) | 7/0/4/3Pharma | NR | Pfizer |
| 90 | Tofacitinibtopical | Abstract congressdermatology | EEUUMulticentric (3) | 5/0/4/1Pharma | 5 | Pfizer |
| 91 | Tofacitinibtopical | Full texdermatology | Multinational-EEUUMulticentric (5) | 7/0/4/3Pharma | 5 | Pfizer |
| 92 | Ruxolitinbtopical | Full texydermatology | EEUUMulticentric (2) | 9/1/8/0Pharma | 9 | Incyte Corp |
| 93 | Tofacitinibsystemic | Full text dermatology | Multinational-EEUUMulticentric (5) | 10/0/6/4Pharma | 10 | Pfizer |
| 94 | ASP015 Ksystemic | Abstrac Congressdermatology | Multinational-EEUUMulticentric (3) | 6/0/4/2Pharma | NR | NR |
| 95 | Tofacitinibsystemic | Abstrac Congressdermatology | EEUUUnicentric | 7/0/7/0Pharma | 7 | Pfizer |
| 96 | Tofacitinibsystemic | Abstrac Congressdermatology | EEUUMulticentric (2) | 3/0/3/0Pharma | 3 | Prizer |
| 97 | TofacitinibSystemic/topical | Abstrac Congressdermatology | SpainMulticentric (3) | 6/3/3/0Pharma-dermatology | NR | NR |
| 98 | Tofacitinibsystemic | Abstrac Congressdermatology | EEUUMulticentric (2) | 4/0/4/0pharma | 4 | Pfizer |
| 99 | Tofacitinibsystemic | Letterdermatology | EEUUMulticentric (4) | 11/0/9/2Pharma | 10 | Pfizer |
| 100 | Tofacitinibsystemic | AbstractCongressrheumatology | Multinational-ArgentimaMulticentric (7) | 10/0/4/6Research insterest | NR | NR |
| 101 | Baricitinibsystemic | Full textgeneral | EEUUMulticentric (2) | 9/0/9/0Pharma | 9 | Eli Lilly |
| 102 | Tofacitinibsystemic | Letterdermatology | UKunicentric | 1/0/0/1Research insterest | 0 | NR |
| 103 | Tofacitinibsystemic | AbstractCongressrheumatology | Multinational-ArgentimaMulticentric (7) | 10/0/4/6Research insterest | NR | NR |
| 104 | Tofacitinibsystemic | AbstractCongressGeneralmedicine | Switzerlandunicentric | 2/0/0/1Research insterest | NR | NR |
| 105 | Itacitinibsystemic | Fulll textdermatology | Multinational-EEUUmulticentric | 11/0/9/2Pharma | 9 | Incyte Corporation |
| 106 | Tofacitinibsystemic | Fulll textdermatology | EEUUUnicentric | 4/0/4/0Pharma | 4 | Pfizer |
| 107 | BMS 986165systemic | Full textGeneral medicine | MultinationalEEUUMulticentric (7) | 9/2/3/4Research insterest | 9 | BristolMyers Squibb, |
| 108 | PF-06700841systemic | Full textPharmacology | EEUUMulticentric (2) | 11/0/10/1Pharma | 11 | Pfizer |
| 109 | Tofacitinibsystemic | AbstractCongressdermatology | EEUUMulticentric (7) | 9/0/6/3Pharma | 9 | NR |
| 110 | Tofacitinibsystemic | AbstractCongressdermatology | multinational-EEUUMulticentric (4) | 6/1/4/1Pharma | NR | Pfizer |
| 111 | Tofacitinibsystemic | AbstractCongressdermatology | multinational-EEUUMulticentic (4) | 4/0/2/2Pharma-research | NR | Pfizer |
| 112 | Tofacitinibsystemic | AbstractCongressdermatology | EEUUunicentric | 1/0/5/0Pharma | NR | Pfizer |
| 113 | Tofacitinibsystemic | AbstractCongressdermatology | EEUUunicentric | 1/0/5/0Pharma | NR | Pfizer |
| 114 | Tofacitinibsystemic | AbstractCongressdermatology | multinational-EEUUMultientric (3) | 4/0/2/3Pharma-research | NR | Pfizer |
| 115 | Ruxolitinibtopical | AbstractCongressdermatology | EEUUMulticentric (3) | 13/0/11/2Pharma | NR | NR |
| 116 | Ruxolitinibtopical | AbstractCongressdermatology | EEUUMulticentric (3) | 4/0/2/2Pharma-research | NR | Incyte Corporation |
| 117 | Tofacitinibsystemic | Abstract Congressrheumatology | EEUUMulticentric (3) | 10/0/8/2Pharma | NR | NR |
| 118 | Brepocitinibsystemic | Full text dermatology | EEUUMulticentric | 0/0/8/3Pharma | 11 | Pfizer |

ID: Reference identifier; Interest conflict: number of authors with conflicts interests; NR, not reported

**Table S8. Tofacitinib serious AE systemic.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Clinical Trial ID/ Study reference** | **Arm group****time treatment** | **Tofacitinib****5 mg BID****Total/****Cardiac/****Infecction/****Cancer/** | **Tofacitinib** **10 mg BID****Total/****Cardiac/****Infecction/****Cancer** | **Etanercept****50mg/weeks****Total/****Cardiac/****Infecction/****Cancer** | **Placebo****Total/****Cardiac/****Infecction/****Cancer** |
| NCT00678210 | 12 weeks | 1/1/0/0n=49 | NA | NA | 0/0/0/0n=50 |
| NCT01186074 | 24 weeks | 6/3/0/0n=218 | 9/1/1/4n=157 | NA | NA |
| NCT01241591 | 12 weeks | 7/1/2/0n=329 | 5/0/2/1n=330 | 7/0/2/0n=335 | 2/0/0/0n=107 |
| NCT01276639 | 52 weeks | 24/3/3/6n=363 | 19/1/9/1n=360 | NA | 2/0/0/0n=45 |
| NTC01309737 | 52 weeks | 18/3/6/0n=382 | 19/0/7/3n=381 | NA | 2/1/0/0n=44 |
| NCT01710046 | 16 weeks | NA | 0/0/0/0n=9 | NA | 1/0/0/0n=3 |
| NCT01519089 | 52 weeks | 3/3/0/0n=47 | 3/0/1/0n=47 | NA | NA |
| NCT01163253 | 66 months | NA | 304/39/88/65n=2281 | NA | NA |
| NCT01815424 | 52 weeks | 4/1/1/0n=88 | 2/0/0/1n=90 | NA | 0/0/0/0n=88 |
| NCT01736696 | 14 days | 0/0/0/0n=5 | 1/0/1/0n=5 | NA | 2/0/0/0n=13 |
| Serum Human Beta-Defensin-2[21]\*\* | 16 weeks | 0/0/0/0n=5 | 0/0/0/0n=7 | NA | 0/0/0/0n=6 |

\*BID: twice daily; \*\* Table S2. NA: not applicable

**Table S9. Topical Tofacitinib oinment treatment efficacy/safety**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Clinical Trial ID** | 0,02% EPB\*/TPPS\*\*/PGAtofacitinibointment1 or 2 twice dailyAE totalmost frequent AEAE serious | 0,2% EPB\*/TPPS\*\*/PGA\*\*\*Tofacitinibointment1 or 2 twice dailyAE totalmost frequent AEAE serious | 1% EPB\*/TPPS\*\*/PGA\*\*\*Tofacitinibointment1 or 2 twice dailyAE totalmost frequent AEA serious | 2% EPB\*/TPPS\*\*/PGA\*\*\*Tofacitinibointment1 or 2 twice dailyAE totalmost frequent AEAE serious | 4%EPB\*/TPPS\*\*/PGA\*\*\*Tofacitinibointment1 or 2 twicedailyAE totalmost frequent AEAE serious | 50µg/gcalcipotriolEPB\*/TPPS\*\*/PGA\*\*\*AE totalmost frequent AEAE serious | VehicleEPB\*/TPPS\*\*/PGA\*\*\*AE totalmost frequent AEAE serious |
| NCT02193815(12 daysIndicates events were collected by non-systemaic assessment | NANANA | NANANA | NANANA | Baseline364.1  (135.82)-117.8  (115.15)/NA/NAn=15No AE seriousNot specified | Baseline:358.9 (132.84)day 1217.7  (91.10)/NA/NAn=15No AE seriousNot specified | 135.5  (114.27)/NA/NAn=15No AE seriousNot specified | Baseline353.1(121.03day 1232.9  (96.72)NA/NAn=15No AE seriousNotspecificied |
| NCT01246583(4weeks) | NA | NA | NA | NA/\*\*\*\*\*-54.4%--24.2%/NAn=48Burning/stingingNo AE serious | NANA | NANA | NA/\*\*\*\*\*-51.5%-17.2%/NAn=23Burning/stingingNo AE serious |
| NCT01831466(12 weeks)Indicates events were collected by non-systematic assessment | NA | NA | NA/21,6%-12,9%n=14469/7Upper Respiratory tract infection | NA/21,1%-20%n=14163/0Nasopharyngitis | NA  | NA | NA/17,6%-16,9%n=14573/4Nasopharyingitis |
| NCT00678561(4 weeks) | NA/-3.29 (-9.03, 2.44; P=0.46) /NA7/0/notSpecifiedN=23 | NA/-1.78% (-7.30, 3.75; p=0.68)/NA N=2313/0/ notSpecified | NA | NA/-4.36% (-10.05, 1.34; P=0.33)/NAN=2313/0/ notSpecified | NA | NA | NA/-6.94 (-15.25, 1.38; P=0.28) /NAN=127/0/ not specified |

\* Change From Baseline in Psoriatic Skin Thickness/Echo-Poor Band (EPB) for PF-06263276 4% Solution in Comparison to Corresponding Vehicle at Day 12 [Time Frame: Day 1 (Baseline), Day 12] Psoriatic skin thickness was measured using a 20 megahertz (MHz) high frequency sonograph. Serial A-scans were composed and presented on a monitor as a section of the skin.

\*\* Percent change Target Plaque Severity Score (TPSS) [Time Frame: 4 Weeks; \*\*\*12 weeks; \*\*\*\*4weeks; ]\*\*\*\*\*. Negative values for differences between groups represent a favourable treatment effect; NA; not applicable.

\*\*\***\*** Percentage of Participants Achieving a PGA-C Response of Clear (0) or Almost Clear (1) and Greater Than or Equal to (≥) 2 Grade / Point Improvement From Baseline at Week 12

**Table S10. Topical ruxolitinib ointment treatment efficacy/safety**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Clinical Trial ID** | Ruxolitinib phosphate cream 0.5%QD\*LAPCB\*\*\*AE total/serious/Most frequent28 days  | Ruxolitinib phosphate cream 1.0%QD\*LAPCB\*\*\*AE total/serious/Most frequent 28 days | Ruxolitinib phosphate cream 1.5%BID\*\*LAPCB\*\*\*AE total/serious/Most frequent28 days  | Calcipotriene 0.005%LAPCB\*\*\*AE total/serious/Most frequent 28 days | Betamethasone dipropionate 0.05% creamLAPCB\*\*\*AE total/serious/Most frequent 28 days | PlaceboLAPCB\*\*\*AE total/serious/Most frequent 28 days |
| NCT00820950 | n=52.30%(14,18%)NA/0/NA | n=6-9.92% (10.31%)NA/0/NA | n=15-20.68%(9.71%)NA/0/NA | n=5-1.28% (15.87%)NA/0/NA | n=5-3.56%(17.58%)NA/0/NA | n=17-4.67%(6.89%)NA/0/NA |
| NCT00617994 | NA | NA | NA | NANANA | NANANA | NANANA |
| NCT00778700\*\*\* | NA | NA | NA | NANA | NANA | NA |

\*QD: once daily; \*\*BID: twice daily; \*\*\*Lesion area (percent change from baseline [SEM]) for various treatments: LAPCB

\*\*\*\*Absolute change from Baseline to Day 84 in total lesion score for all treatable psoriatic lesions. [Time Frame: Baseline and Day 84 (or early study termination visit)]. Sum of erythema, scaling, and thickness for all treatable lesions; NA, not applicable

**Table S11. Peficitinib treatment efficacy/safety**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | ASP015K10mg BID\*\*PASI 75AE total/AESerious/ Mostfrequent6weeks | ASP015K25mgBID\*\*PASI 75AE total/AESerious/ Mostfrequent6weeks | ASP015K60 mgBID\*\*PASI 75AE total/AESerious/ Mostfrequent12 weeks | ASP015K100mgBID\*\*PASI 75AE total/AESerious/ Mostfrequent6weeks | ASP015K50mgQD\*PASI 75AE total/AESerious/ Mostfrequent6weeks | PlaceboPASI 75AE total/AESerious/ Mostfrequent6 weeks |
| NCT01096862 | n=1931,6%11/ NA /Nasal congestion | n=2114,3%9/NA/Dry mouth | n=1957,9%7/NA/Nasopharyngitis | n=1764,7%11/NA/Nasopharyngitis | n=1915,8%6/NA/Headache | n=293,4%11/NA/Nasopharyngitis |

\*QD: once daily; \*BID: twice daily; NA, not applicable

**Table S12. Baricitinib treatment efficacy/safety**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2mgQD\*PASI75/AE total/serious/Most frequent 12 weeks | 4mg QD\*PASI 75AE total/serious/Most frequent 12 weeks | 8mgQD\*PASI75AE total/serious/Most frequent 12 weeks | 10mg QD\*PASI75AE total/serious/Most frequent 12 weeks | PlaceboPASI75AE total/serious/Most frequent 12 weeks |
| NCT01490632 | n=2828,6%9/1/ Fatigue\*\* | n=6328,6%12/1/Urinarytractinfection\*\* | n=5642,9%21/1/Nasopharyngitis\*\* | n=6154,1%23/1/Nasopharyngitis\*\* | N=3016,7%11/1/ Nasopharyngitis\*\* |

\*QD: once daily ; \*\*Indicates events were collected by systematic assessment

**1**

**Table S13. Baricitinib serious AE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Arms grouptreatments | Baricitinib2mg | Baricitinib4 mg | Baricitinib8 mg | Baricitinb10 mg | Placebo |
| NCT01490632(yes) | 24 weeks | 1n=32psoriasis\* | 1n=72oesophageal carcinoma\* | 1n=64squamous cell carcinoma of skin\* | 1n=69pneumonia\* | 1n=34diabeticfood\* |

\*Indicates events were collected by systematic assessment

**Table S14. Solcitinib treatment efficacy/safety**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Solcitinib 100 mg PASI 75AE total/AESerious/ Mostfrequent12 weeks | Solcitinib 200mg PASI 75AE total/AESerious/ Mostfrequent12 weeks | Solcitinib 400 mg PASI 75AE total/AESerious/ Mostfrequent12 weeks | PlaceboPASI 75AEtotal/AESerious/ Mostfrequent12 weeks |
| NCT01782664(yes) | n=1513%10/2/headache\* | n=1625%14/0/ Nasopharyngitis\* | n=1457%10/1/Nasopharyngitis\*  | n=140%13/0/Headache\* |

\*Indicates events were collected by systematic assessment. AE:adverse events, PASI 75: 75% reduction psoriasis area severity index

**Table S15. Solcitinib serious AE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Armn groups | Solcitinib100 mg BID\* | Solcitinib200 mgBID\* | Solcitinib 400 mgBID\* | Placebo |
| NCT01782664 | 12 weeks | 3n=15trombocitopeniaconcussionligament ruptura\*\* | 0n=16 | 1n=14abdominal pain\*\* | 0n=14 |

\*\*BID: twice daily,\*\*Indicates events were collected by systematic assessment

**Table S16. Itacitinib treatment efficacy/safety**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Itacitinib 100 mg QD\*PGAs change/AE total/Most frequent AE/ | Itacitinib200 mg QD\*PGAschangeAE total/Most frequent AE/ | Itacitinib200 mgBID\*\*PGAschangeAE total/Most frequent AE/ | Itacitinib600 mg QD\*PGAschangeAE total/Most frequent AE/ | PlaceboPGAs changeAEtotal/Most frequent AE/ |
| NCT01634087 | -22.2%/3/NasopharyngitisHeadachen=9 | -29,4%/5/NasopharyngitisAST increasedn=9 | -35,2%/6/NasophaRyngitisn=9 | -42,4%/5/NasophaRyngitisN=11 | -12,5%/4NasophaRyngitisN=12 |

\*QD: once daily ,\*BID: twice daily, AE:advere events

**Table S17. Itacitinib serious AE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Itacitinib 100 mg QD | Itacitinib200 mg QD | Itacitinib200 mgBID | Itacitinib600 mg QD | Placebo |
| NCT01634087 | 0 | 0 | 0 | 0 | 0 |

\*QD: once daily ,\*BID: twice daily

**Table S18.-Deucravacitanib/ BMS-986165 treatment efficacy/safety**

|  |  |  |  |
| --- | --- | --- | --- |
|  | BMS-986165 6mgBID\*PASI 75/AE total/AESerious/ Mostfrequent4 weeks | BMS-986165 QD PASI 75AE total/AESerious/ Mostfrequent4 weeks | PlaceboPASI 75AE total/AESerious/ Mostfrequent4 weeks |
| NCT02931838  | n=4475%25/0/Nasopharyngithis \* | n=4566,4%19/0/ Blood creatinineincreased\* | n=456,7%13/1/0/Nasopharyngitis\* |
| NCT03924427 | NANANA | NANANA | NANANA |
| NCT04772079 | NANANA | NANANA | NANANA |
| NCT04036435- | NANANA | NANANA | NANANA |
| NCT03624127 | NANANA | NANANA | NANANA |
| NCT04167462 | NANANA | NANANA | NANANA |
| NCT03611751- | NANANA | NANANA | NANANA |
| NCT02534636 | NANANA | NANANA | NANANA |

\*QD: once daily \*BID: twice daily,\*Indicate events were collected by systematic assesstment, AE:adverse events;

PASI 75:75% reduction psoriasis area severity index. NA, not applicable

**Table S19.- Abrocitinib/PF-04965842 treatment efficacy/safety**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | PF-04965842 200mg QD\*reduction PASI AEtotal/AESerious/ Mostfrequent4weeks | PF-04965842 400mg QD\*reduction PASI AEtotal/AESerious/ Mostfrequent4weeks | PF-04965842 200mg BID\*\*reduction PASI AE total/AESerious/ Mostfrequent4weeks | PlaceboReduction PASIAE total/AESerious/ Mostfrequent4weeks |
| NCT02201524 | N=15-11,73% 7/0/Nausea\*\*\* | N=16-13,09%14/0/Headache\*\*\* | N=14-13,71%11/0/Trombocitopenia\*\*\* | N=14-6,61%6/1/Headache\*\*\* |

\*QD: once daily, \*\*BID: twice daily,\*\*\*Indicates events were collected by non-systematic assessment

PASI: reduction psoriasis area severity index; AE: adverse event

**Table S20. Brepocitinib/ PF-06700841 treatment efficacy/safety**

|  |  |  |  |
| --- | --- | --- | --- |
|  | PF-06700841 30mgQD\*reduction PASI AE total/AESerious/ Mostfrequent4weeks | PF-06700841 100mgQD\*reduction PASI AE total/AESerious/ Mostfrequent4weeks | Placeboreduction PASI AE total/AESerious/ Mostfrequent4weeks |
| NCT02310750  | n=14NA11/0/Blood creatinineincreased\*\* | n=9NA6/0/ Blood creatinineincreased\*\* | n=7NA5/0/constipation\*\* |
|  | PF-06700841 30mgQD\*reduction PASI 75AE total/AESerious/ Mostfrequent12weeks | PF-06700841 30mgQD\* 4 weeksInduction followed 100 mg once weekely PASI AE total/AESerious/ Mostfrequent12weeks | Placeboreduction PASI AE total/AESerious/ Mostfrequent12weeks |
| NCT02969018 | n=\_2586%13/0/nasopharyngitis | n=1936.7%16/0/nasopharyngitis | N=1713%9/0/nasopharyngitis |
| NCT03850483 | NANANA | NANANA | NANANA |

\*QD: once daily; \*\*Events were collected by non-systematic assessment; AE:adverse events, PASI:Psoriasis Area Severity Index; NA; not applicable