

**SECUKINUMAB PERSISTENCE IN PATIENTS WITH PSORIATIC ARTHRITIS: AN
ADALIMUMAB-MATCHED RETROSPECTIVE COHORT DATABASE STUDY
(FLYWAY)**

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SUPPLEMENTARY MATERIAL

Supplementary Table S1. Diagnostic codes for identification of diseases of interest in the database.

MDV ICD-10 code	Disease code	Disease name
PsA		
L405 [Arthropathic psoriasis]		
Hypertension		
I10 [Essential (primary) hypertension]		
I110 [Hypertensive heart disease with (congestive) heart failure]		
I119 [Hypertensive heart disease without (congestive) heart failure]		
I120 [Hypertensive renal disease with renal failure]		
I129 [Hypertensive renal disease without renal failure]		
I139 [Hypertensive heart and renal disease, unspecified]		
I15 [Secondary hypertension]		
Diabetes		
E11 [Type 2 diabetes mellitus]		
E14 [Unspecified diabetes mellitus]		
Fibromyalgia		
M7979 [Fibromyalgia; Site unspecified]		
Psoriasis		
L400 [Psoriasis vulgaris]		
L401 [Generalized pustular psoriasis]		
L402 [Acrodermatitis continua]		
L404 [Guttate psoriasis]		
L408 [Other psoriasis]		
L409 [Psoriasis, unspecified]		
Bowel disease		
K50 [Crohn disease]		
K51 [Ulcerative colitis]		
Ankylosing spondylitis		
M0810 [Juvenile ankylosing spondylitis; Multiple sites]		
M45 [Ankylosing spondylitis]		
Hyperlipidaemia		
E780 [Pure hypercholesterolaemia]		
E781 [Pure hyperglyceridaemia]		
E782 [Mixed hyperlipidaemia]		
E783 [Hyperchylomicronaemia]		
E784 [Other hyperlipidaemia]		
E785 [Hyperlipidaemia, unspecified]		
Hyperuricemia		
E790 [Hyperuricaemia without signs of inflammatory arthritis and tophaceous disease]		
M10 [Gout]		
Depression / anxiety		
F064 [Organic anxiety disorder]		
F313 [Bipolar affective disorder, current episode mild or moderate depression]		
F314 [Bipolar affective disorder, current episode severe depression without psychotic symptoms]		
F315 [Bipolar affective disorder, current episode severe depression with psychotic symptoms]		
F32 [Depressive episode]		
F33 [Recurrent depressive disorder]		

MDV ICD-10 code	Disease code	Disease name
F341 [Dysthymia]		
F40 [Phobic anxiety disorders]		
F41 [Other anxiety disorders]		
F432 [Adjustment disorders]		
F930 [Separation anxiety disorder of childhood]		
Uveitis		
H20 [Iridocyclitis]		
H302 [Posterior cyclitis]		
H441 [Other endophthalmitis]		
Neutropenia		
D70 [Agranulocytosis]	2880001	neutropenia
	8834539	cyclic neutropenia
	8835205	autoimmune neutropenia
	8837640	toxic neutropenia
	8838180	idiopathic neutropenia
	8839294	splenic neutropenia
	2880005	leukopenia
	2880006	agranulocytosis
	2880009	granulocytopenia
	2889001	secondary leukopenia
	8840703	drug-induced granulocytopenia
Serious infections		
A01-A09 [Intestinal infectious diseases]		
A15-A19 [Tuberculosis]		
A20-A28 [Certain zoonotic bacterial diseases]		
A30-A49 [Other bacterial diseases]		
A50-A64 [Infections with a predominantly sexual mode of transmission]		
A65-A69 [Other spirochaetal diseases]		
A70-A74 [Other diseases caused by chlamydiae]		
A75-A79 [Rickettsioses]		
A80-A89 [Viral infections of the central nervous system]		
A90-A99 [Arthropod-borne viral fevers and viral haemorrhagic fevers]		
B00-B09 [Viral infections characterized by skin and mucous membrane lesions]		
B15-B19 [Viral hepatitis]		
B20-B24 [Human immunodeficiency virus [HIV] disease]		
B25-B34 [Other viral diseases]		
B35-B49 [Mycoses]		
B50-B64 [Protozoal diseases]		
B65-B83 [Helminthiasis]		
B85-B89 [Pediculosis, acariasis and other infestations]		
B95-B98 [Bacterial, viral and other infectious agents]		
B99-B99 [Other infectious diseases]		
G03 [Meningitis due to other and unspecified causes]		
H10 [Conjunctivitis]		
H60 [Otitis externa]		
H65 [Nonsuppurative otitis media]		
H66 [Suppurative and unspecified otitis media]		
J00-J06 [Acute upper respiratory infections]		
J09-J18 [Influenza and pneumonia]		
J20-J22 [Other acute lower respiratory infections]		
K046 [Periapical abscess with sinus]		
K047 [Periapical abscess without sinus]		
K052 [Acute periodontitis]		
K113 [Abscess of salivary gland]		

MDV ICD-10 code	Disease code	Disease name
K35-K38 [Diseases of appendix]		
K57 [Diverticular disease of intestine]		
K61 [Abscess of anal and rectal regions]		
K630 [Abscess of intestine]		
K65 [Peritonitis]		
K750 [Abscess of liver]		
L02 [Cutaneous abscess, furuncle and carbuncle]		
L03 [Cellulitis]		
M86 [Osteomyelitis]		
N10 [Acute tubulo-interstitial nephritis]		
N11 [Chronic tubulo-interstitial nephritis]		
N12 [Tubulo-interstitial nephritis, not specified as acute or chronic]		
N390 [Urinary tract infection, site not specified]		
U071 [COVID-19]		
U072 [COVID-19, virus not identified]		
Anaphylactic reaction		
T782 [Anaphylactic shock, unspecified]		
T886 [Anaphylactic shock due to adverse effect of correct drug or medicament properly administered]	9950009	drug-induced shock
Erythroderma		
L26 [Exfoliative dermatitis]		

Supplementary Table S2. ATC and drug codes for identification of drugs of interest in the database.

ATC code	Drug general name	Drug code	Drug name
Biologics			
D05B0	Brodalumab		
D05B0	Guselkumab		
D05B0	Risankizumab		
L04B0	Adalimumab		
L04B0	Certolizumab Pegol		
L04B0	Infliximab		
L04C0	Ixekizumab		
L04C0	Secukinumab		
L04C0	Ustekinumab		
Methotrexate			
L01B0	Methotrexate	614210098	Methotrexate Tablets 2.5mg
M01C0	Methotrexate		
Systemic glucocorticoids			
H02A2	Betamethasone		
H02A1	Betamethasone Sodium Phosphate	620002613	Rinderon Injection 2mg(0.4%)
H02A1		620002614	Rinderon Injection 4mg(0.4%)
H02A1		620002615	Rinderon Injection 20mg(0.4%)
H02A1		620003829	Linolosal Injection 2mg(0.4%)
H02A1		620003830	Linolosal Injection 4mg(0.4%)
H02A1		620003831	Linolosal Injection 20mg(0.4%)
H02A1		620006275	Hicort Injection 2mg(0.4%)
H02A1		620006276	Hicort Injection 4mg(0.4%)
H02A1		620008220	Hicort Injection 20mg(0.4%)
H02A1		621977200	Betamethasone Sodium Phosphate 20mg Injection
H02A2	Cortisone Acetate		
H02A2	Dexamethasone		
H02A1	Dexamethasone Metasulfobenzoate Sodium		
H02A1	Dexamethasone Sodium Phosphate	620525001	Decadron Injection 1.65mg 0.5mL
H02A1		620525101	Dexart Injection 1.65mg 0.5mL
H02A1		620525201	Orgadrone Injection 1.9mg 0.5mL
H02A1		620525301	Decadron Injection 3.3mg 1mL
H02A1		620525401	Dexart Injection 3.3mg 1mL
H02A1		620525601	Decadron Injection 6.6mg 2mL
H02A1		620525701	Dexart Injection 6.6mg 2mL
H02A1		620525801	Orgadrone Injection 3.8mg 1mL
H02A1		620525901	Orgadrone Injection 19mg 5mL
H02A1		640422045	Dexart Injection 3.3mg
H02A1		640422046	Dexart Injection 1.65mg
H02A1		640422047	Dexart Injection 3.3mg
H02A1		642450007	Orgadrone Injection 3.8mg
H02A1		642450008	Orgadrone Injection 3.8mg
H02A1		642450054	Decadron Injection 1.65mg
H02A1		642450055	Decadron Injection 3.3mg
H02A1		642450056	Decadron Injection 3.3mg
H02A2	Fludrocortisone Acetate		
H02A2	Hydrocortisone		
H02A2	Methylprednisolone		
H02A1	Methylprednisolone Acetate		
H02A2	Prednisolone		
H02A1	Prednisolone Sodium Succinate		

ATC code	Drug general name	Drug code	Drug name
H02A2	Triamcinolone		
H02A1	Triamcinolone Acetonide		
Ciclosporin			
L04X0	Ciclosporin	610443018	Neoral 10mg Capsules
		610443019	Neoral 25mg Capsules
		610443020	Neoral 50mg Capsules
		610443021	Neoral Oral Solution 10%
		613990074	Sandimmun Oral Solution 10%
		613990085	Sandimmun Capsules 25mg
		613990086	Sandimmun Capsules 50mg
		620002641	Amadra Capsules 25mg
		620002728	Cicporal Capsules 25 25mg
		620002729	Cicporal Capsules 50 50mg
		620003955	Cicporal Capsules 10 10mg
		620009312	Ciclosporin Capsules 10mg (MYLAN)
		620009313	Ciclosporin Capsules 25mg (MYLAN)
		620009314	Ciclosporin Capsules 50mg (MYLAN)
		620882601	Sandimmun Oral Solution 10%
		621326201	Neoral Oral Solution 10%
		621483603	Ciclosporin Capsules 25mg (PFIZER)
		621483703	Ciclosporin Capsules 50mg (PFIZER)
		621637802	Ciclosporin Capsules 10mg (PFIZER)
		621674701	Ciclosporin Capsules 25mg (NICHIIKO)
		621674801	Ciclosporin Capsules 50mg (NICHIIKO)
		621677601	Ciclosporin Capsules 25mg (TC)
		621677701	Ciclosporin Capsules 50mg (TC)
		621685602	Ciclosporin Fine Granules 17% (PFIZER)
		621732201	Ciclosporin Capsules 10mg (NICHIIKO)
		621738001	Ciclosporin Capsules 10mg (TC)
		621743306	Ciclosporin Capsules 25mg (BMD)
		621743406	Ciclosporin Capsules 50mg (BMD)
		622043804	Ciclosporin Capsules 10mg (BMD)
		622056201	Ciclosporin Capsules 10mg (TOWA)
		622056301	Ciclosporin Capsules 25mg (TOWA)
		622056401	Ciclosporin Capsules 50mg (TOWA)
		622741800	Ciclosporin 10mg Capsules
		622741900	Ciclosporin 25mg Capsules
		622742000	Ciclosporin 50mg Capsules
Salazosulfapyridine			
A07E1	Salazosulfapyridine	616210018	Salazopyrin Tablets 500mg
		620006949	Slama Tablets 500mg
		620008624	Salazopyrin Tablets 500mg
		620009119	Salazosulfapyridine Tablets 500mg (TAIYO)
		621133002	Salazosulfapyridine Tablets 500mg (NICHIIKO)
		622023001	Salazosulfapyridine Tablets 500mg (JG)
		622746800	Salazosulfapyridine 500mg Tablets
M01C0	Salazosulfapyridine	610453008	Asasurfan Enteric-coated Tablets 500mg
		610453051	Safildine-EN Tablets 500 500mg
		610453065	Soaresin Tablets 250mg
		610463004	Azulfidine EN Tablets 250mg
		620004897	Azulfidine EN Tablets 500mg
		621442802	Salazosulfapyridine Enteric-coated Tablets 500mg (SN)
		621442905	Salazosulfapyridine Enteric-coated Tablets 500mg (CH)
		621443001	Salazosulfapyridine Enteric-coated Tablets 250mg (TEVA)

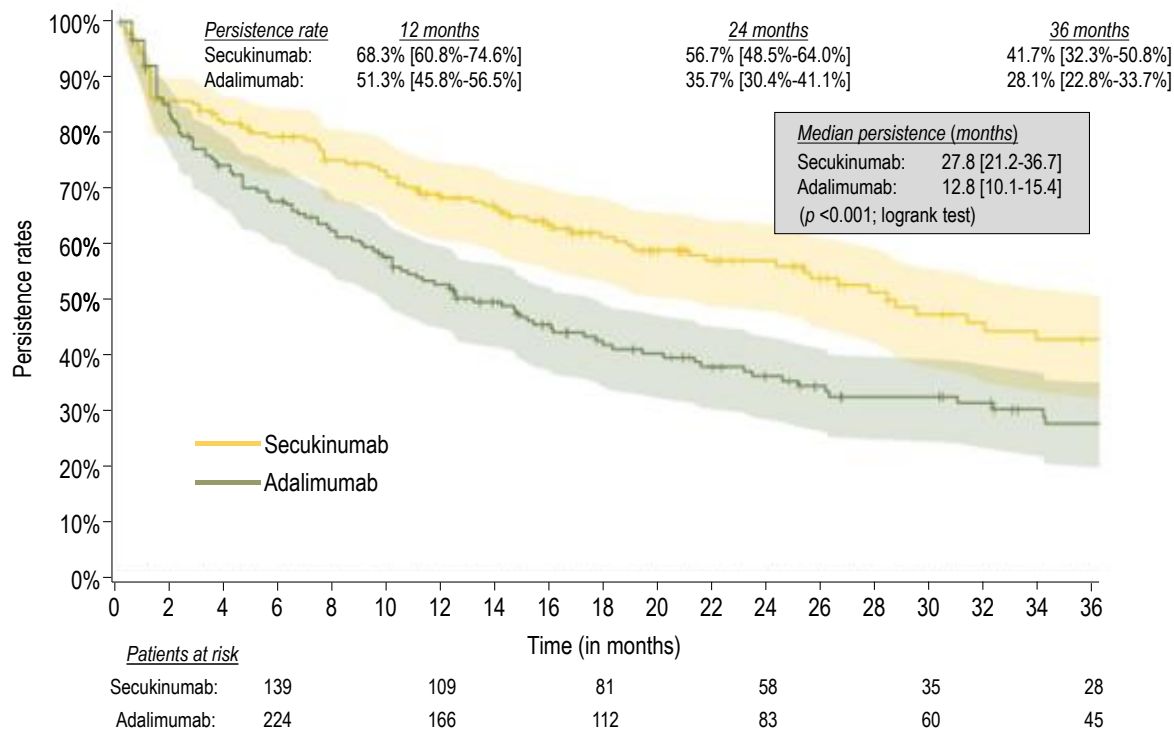
ATC code	Drug general name	Drug code	Drug name
		621443002	Salazosulfapyridine Enteric-coated Tablets 250mg (TAKEDA TEVA)
		622039002	Salazosulfapyridine Enteric-coated Tablets 250mg (SN)
		622103601	Salazosulfapyridine Enteric-coated Tablets 500mg (TAIYO)
		622103602	Salazosulfapyridine Enteric-coated Tablets 500mg (TEVA)
		622161401	Asasurfan Enteric-coated Tablets 250mg
		622161402	Salazosulfapyridine Enteric-coated Tablets 250mg (CH)
		622173801	Salazosulfapyridine Enteric-coated Tablets 250mg (NICHIIKO)
		622173901	Salazosulfapyridine Enteric-coated Tablets 500mg (NICHIIKO)
		622746900	Salazosulfapyridine 500mg Enteric-coated Tablets
		622747000	Salazosulfapyridine 250mg Enteric-coated Tablets
		622833801	Salazosulfapyridine Enteric-coated Tablets 500mg (TAKEDA TEVA)
Apremilast			
L04X0	Apremilast		
Etretinate			
D05B0	Etretinate		
Upadacitinib			
M01C0	Upadacitinib		
Oral non-steroidal anti-inflammatory drugs			
M01A1	Acemetacin		
M01A1	Alminoprofen		
M01A1	Amfenac Sodium Hydrate		
M01A1	Ampiroxicam		
M01A1	Bucolome		
M01A1	Diclofenac Sodium	620004439	Adefuronic Tablets 25mg
		620004438	Adefuronic-L Capsules 37.5mg
		620006107	Blesin Tablets 25mg
		620006020	Daispas SR Capsules 37.5mg
		620006021	Daispas Tablets 25mg
		620005975	Diclofenac Na SR Tablets 37.5mg (MEEK)
		621212601	Diclofenac Na Sustained Release Capsules 37.5mg (TOWA)
		620080001	Diclofenac Na Sustained Release Capsules 37.5mg (ZE)
		620079303	Diclofenac Na Tablets 25mg (ISEI)
		620079345	Diclofenac Na Tablets 25mg (NP)
		620079305	Diclofenac Na Tablets 25mg (SAWAI)
		620079349	Diclofenac Na Tablets 25mg (TAKEDA TEVA)
		620079311	Diclofenac Na Tablets 25mg (TCK)
		620079315	Diclofenac Na Tablets 25mg (TOWA)
		620079325	Diclofenac Na Tablets 25mg (TSURUHARA)
		620079338	Diclofenac Na Tablets 25mg (YD)
		622314000	Diclofenac Sodium 25mg Tablets
		622709400	Diclofenac Sodium 25mg Tablets
		622709500	Diclofenac Sodium 37.5mg Sustained Release Capsules
		620008628	Diclofenac Sodium SR Capsules 37.5mg (OHARA)
		620006041	Docell Tablets 25mg
		620006088	Fenacidon Tablets 25mg
		620005922	Irinatolon Tablets 25mg
		610454052	Naboal SR Capsules 37.5 37.5mg
		620004494	Savismin SR Capsules 37.5mg
		620006014	Sofarin Tablets 25mg

ATC code	Drug general name	Drug code	Drug name
		620004517	Sorelmon Tablets 25mg
		620006016	Sorelmon-SR Capsules 37.5mg
		620008646	Thicataren Tablets 25mg
		611140427	Volmagen Tablets 25mg
		620007097	Volmagen Tablets 25mg
		611140782	Voltaren SR Capsules 37.5mg
		620007095	Voltaren SR Capsules 37.5mg
		611140426	Voltaren Tablets 25mg
		620007096	Voltaren Tablets 25mg
		620008760	Youfenac Tablets 25mg
M01A1	Emorfazone		
M01A1	Epirizole		
M01A1	Etodolac		
M01A1	Flufenamate Aluminum		
M01A1	Flurbiprofen		
M01A1	Ibuprofen	620007068	Brufen Granules 20%
		620002537	Brufen Tablets 100 100mg
		611140395	Brufen Tablets 200 200mg
		622709700	Ibuprofen 100mg Tablets
		620006848	Ibuprofen Granules 20% (TATSUMI)
		620088902	Ibuprofen Granules 20% (TSURUHARA)
		620090601	Ibuprofen Tablets 100mg (TAIYO)
		620006849	Ibuprofen Tablets 100mg (TATSUMI)
		622058201	Ibuprofen Tablets 200mg (TAIYO)
		622066701	Ibuprofen Tablets 200mg (TATSUMI)
		611140474	Mogifen Tablets 100mg
		620008756	Mogifen Tablets 100mg
		611140575	Subheron 100 100mg
M01A1	Indometacin	611140824	Indometacin Capsules 25 (ISEI) 25mg
		611140098	Indometacin Capsules 25mg
		610463033	Inteban SP 25 25mg
		610463034	Inteban SP 37.5 37.5mg
		611140828	Infree Capsules 100mg
		610406402	Infree S Capsules 200mg
M01A1	Ketoprofen	611140826	Orudis SR 150 150mg
M01A1	Lobenzarit Disodium		
M01A1	Lornoxicam		
M01A1	Loxoprofen Sodium Hydrate		
M01A1	Mefenamic Acid		
M01A1	Meloxicam		
M01A1	Mofezolac		
M01A1	Nabumetone		
M01A1	Naproxen		
M01A1	Oxaprozin		
M01A1	Piroxicam	611140322	Baxo Capsules 10 10mg
		611140323	Baxo Capsules 20 20mg
		620097508	Piroxicam Capsules 10mg (TSURUHARA)
		620097815	Piroxicam Capsules 20mg (TSURUHARA)
M01A1	Pranoprofen		
M01A1	Proglumetacin Maleate		
M01A1	Sulindac		
M01A1	Tiaprofenic Acid		
M01A1	Tiaramide Hydrochloride		
M01A1	Zaltoprofen		
M01A3	Celecoxib		

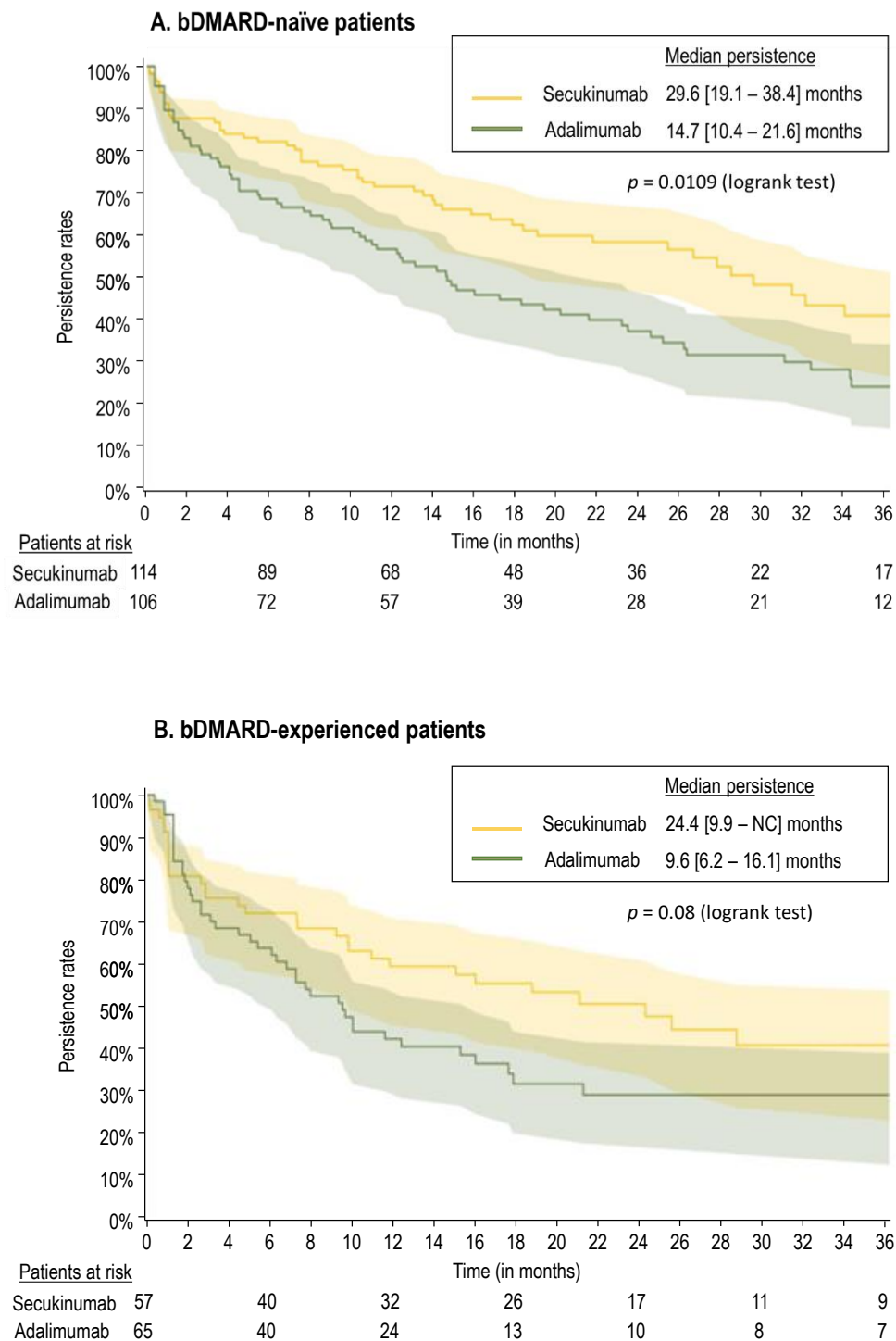
Supplementary Table S3. Listing of serious infections during follow-up

Infection type	Secukinumab (N = 182)		Adalimumab (N = 352)	
	n	(%)	n	(%)
Pneumonia	0	(0.0%)	3	(16.7%)
Acute pneumonia	0	(0.0%)	2	(11.1%)
Gram-negative bacillus sepsis	0	(0.0%)	2	(11.1%)
Bacterial pneumonia	1	(9.1%)	1	(5.6%)
Acute appendicitis	0	(0.0%)	1	(5.6%)
Acute bronchitis	1	(9.1%)	0	(0.0%)
Acute pharyngotonsillitis	1	(9.1%)	0	(0.0%)
Atypical pneumonia	0	(0.0%)	1	(5.6%)
Acute tonsillitis	1	(9.1%)	0	(0.0%)
Acute pyelonephritis	1	(9.1%)	0	(0.0%)
Bacterial colitis		(0.0%)	1	(5.6%)
Bacterial enteritis		(0.0%)	1	(5.6%)
Buttock cellulitis	1	(9.1%)	0	(0.0%)
Cellulitis	1	(9.1%)	0	(0.0%)
Colon diverticulum hemorrhage	0	(0.0%)	1	(5.6%)
Herpes zoster	1	(9.1%)	0	(0.0%)
Infectious enterocolitis	0	(0.0%)	1	(5.6%)
Liver abscess	0	(0.0%)	1	(5.6%)
Lower leg cellulitis	1	(9.1%)	0	(0.0%)
Mycoplasma pneumonia	0	(0.0%)	1	(5.6%)
Pyelonephritis	0	(0.0%)	1	(5.6%)
Subacute hepatitis	0	(0.0%)	1	(5.6%)
Sepsis	1	(9.1%)	0	(0.0%)
Urinary tract infection	1	(9.1%)	0	(0.0%)

Supplementary Figure S1. Persistence rates in the secukinumab and adalimumab cohorts before matching.

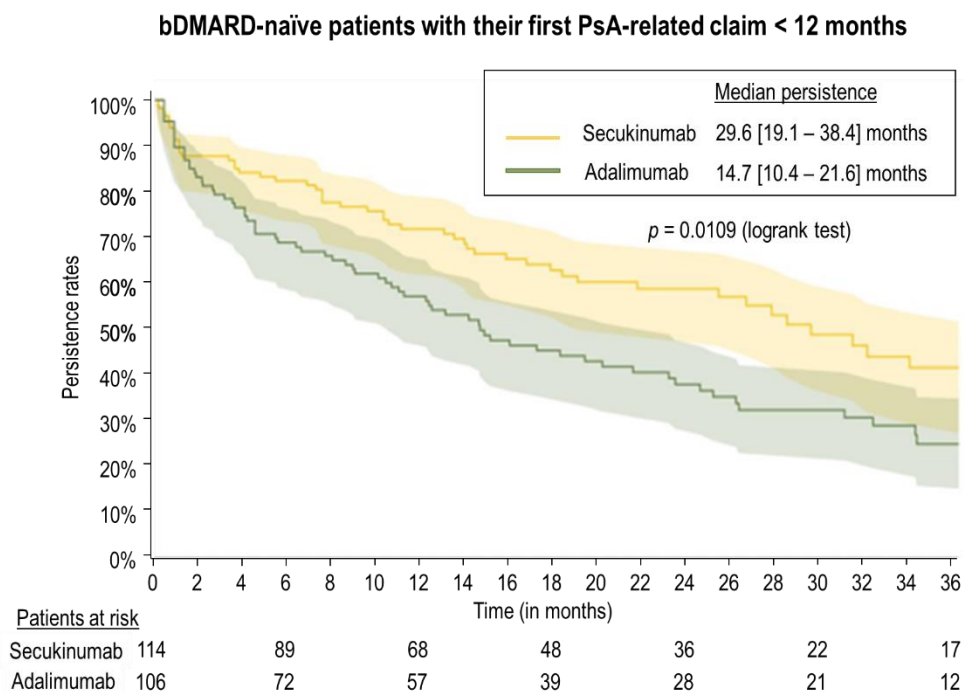


Supplementary Figure S2. Persistence rates in bDMARD-naïve and bDMARD-experienced patients (after matching)



Median persistence estimates are presented with their 95% confidence intervals.
bDMARD: biological disease-modifying antirheumatic drug; NC: not calculable.

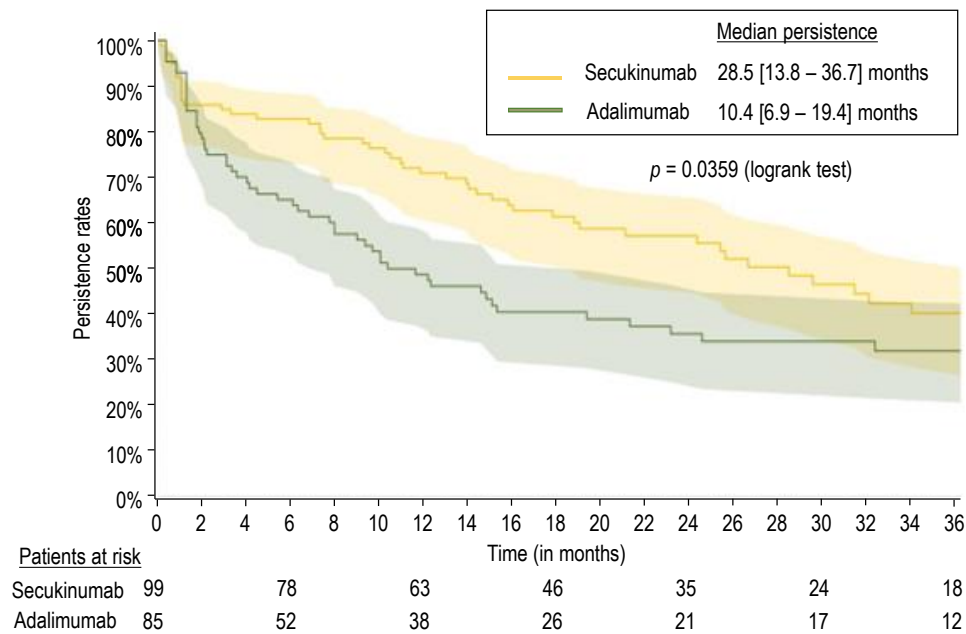
Supplementary Figure S3. Persistence rates in bDMARD-naïve patients diagnosed with PsA <12 months before the index date (after matching)



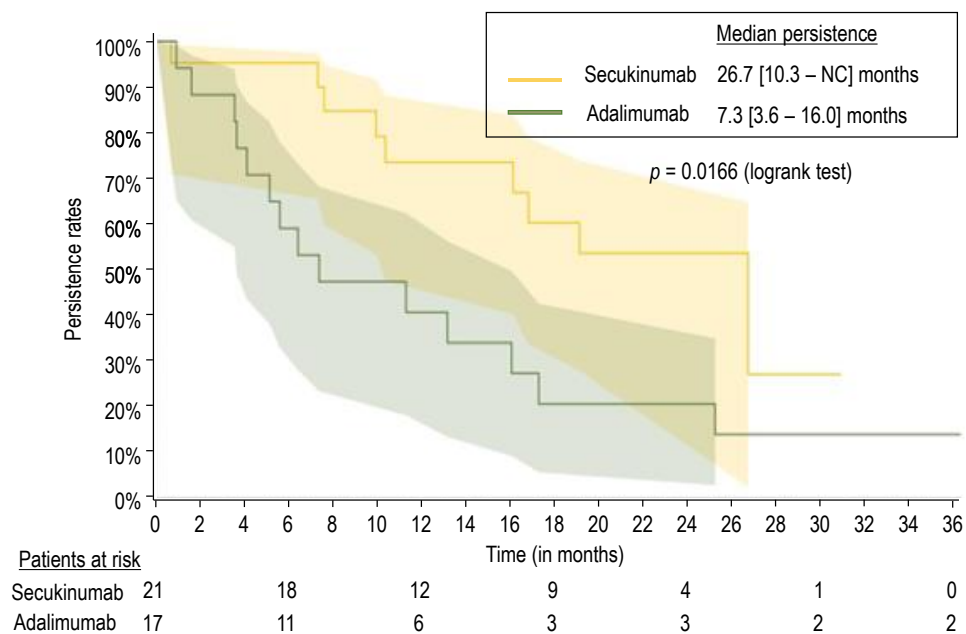
Median persistence estimates are presented with their 95% confidence intervals.
bDMARD: biological disease-modifying antirheumatic drug.

Supplementary Figure S4. Persistence rates according to department of consultation (after matching)

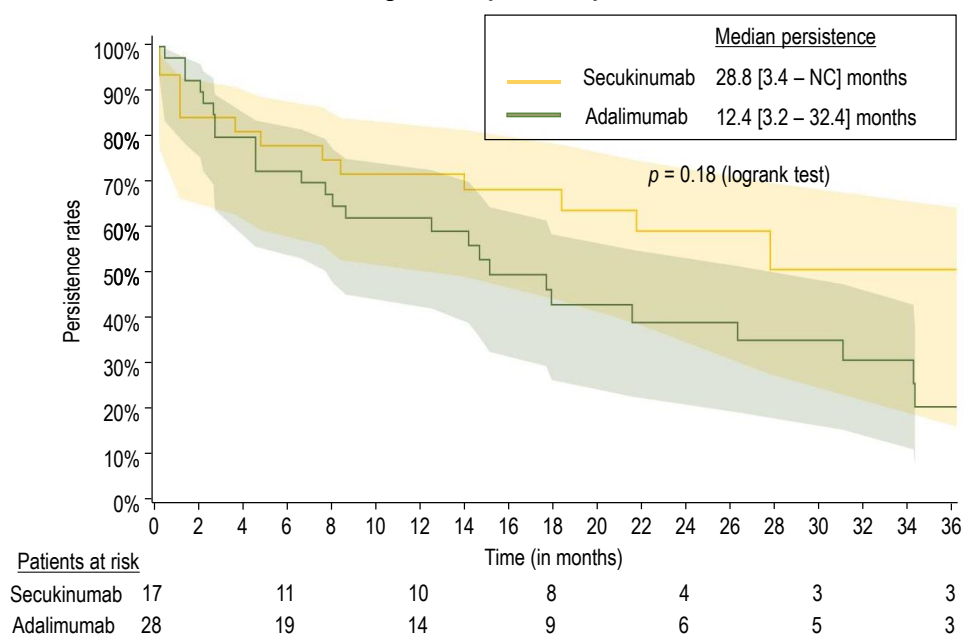
A. Patients consulting in dermatology departments



B. Patients consulting in rheumatology departments



C. Patients consulting in orthopaedic departments



Median persistence estimates are presented with their 95% confidence intervals.

NC: not calculable.