Table S1. Key clinical and translational studies in primary cutaneous lymphomas

Study (First author, Year)	Study type / Phase	Disease / Population	Intervention / Focus	Main findings	Ref.
Willemze 2019	Classification update	PCL (CTCL & PCBCL)	WHO–EORTC 2018 update	Defines modern clinicopathologic entities and diagnostic criteria for PCL.	[1]
Campo 2022	Consensus classification	Lymphoid neoplasms	ICC lymphoid neoplasms	Integrates genomic / clinical data; harmonises nodal and extranodal entities incl. PCL.	[2]
Hristov 2023	Narrative review	PCBCL	Diagnosis, risk-stratification, management	Contemporary algorithm for PCFCL, PCMZL, PCDLBCL-LT.	[3]
Hristov 2021	Narrative review	CTCL	Diagnosis & management	Synthesizes staging, risk groups and therapeutic lines in MF/SS.	[5]
García-Díaz 2021	Translational review	MF/SS	Molecular drivers / targeted therapy	Integrative overview of CTCL genomics and therapeutic targets.	[6]
Krenitsky 2022	Review	PCBCL	Diagnostic / therapeutic update	Clinically focused guide to PCBCL diagnosis and treatment.	[7]
D'Onghia 2024	Prospective/diagnostic	Suspected cutaneous lymphoma	LC-OCT & non-invasive imaging	LC-OCT may aid in distinguishing lymphoma from inflammatory dermatoses.	[18]
Gibbs 2020	Diagnostic study	Suspected CTCL	Flow cytometry + TCR rearrangements	Combined flow and molecular testing improves diagnostic yield.	[19]
Latzka 2023	Guideline / consensus	MF/SS	EORTC treatment update	Updated European recommendations for stage-adapted management.	[20]
Agar 2010	Prognostic cohort	MF/SS	Staging validation	Validates revised ISCL/EORTC staging as prognostically meaningful.	[21]
Geller 2020	Retrospective cohort	MF/SS (Black patients)	Outcomes / prognostic factors	Highlights disparities and specific prognostic markers in Black patients.	[22]

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Scarisbrick 2015	International cohort	Advanced MF/SS	Prognostic model	Develops and validates prognostic model based on clinical and laboratory factors.	[25]
Mehta-Shah 2020	Guideline	PCL	NCCN v2.2020	Standardizes treatment algorithms for CTCL and PCBCL.	[26]
Trautinger 2006	Guideline	MF/SS	EORTC treatment recommendations	Foundational consensus for MF/SS therapies.	[27]
Lessin 2013	RCT	Stage IA–IIA MF	Chlormethine 0.02% gel	ORR ≈ 60%; skin-limited toxicity profile.	[41]
Alexander-Savino 2022 (MIDAS)	Randomized trial	MF	Chlormethine ± topical triamcinolone	Topical steroid cotreatment reduces dermatitis without loss of efficacy.	[42]
Guenova 2023	Mechanistic study	MF	Chlormethine gel	Demonstrates DNA damage and immunomodulatory effects in lesional skin.	[43]
Duvic 2001	Phase II–III	Advanced CTCL	Oral bexarotene	ORR 45%; pruritus improvement in advanced-stage disease.	[44]
Zic 1996	Cohort	CTCL	Extracorporeal photopheresis (ECP)	Long-term follow-up shows durable responses in erythrodermic MF/SS.	[45]
Knobler 2012	Long-term cohort	CTCL	ECP	Confirms survival benefit and safety in CTCL.	[46]
Quaglino 2013	Single-centre cohort	Erythrodermic CTCL	ECP	Durable skin and blood responses; supports early use in erythrodermic MF/SS.	[47]
Cho 2018	Narrative review	CTCL & GVHD	ECP overview	Summarises indications, mechanisms and protocols.	[48]
Piekarz 2009	Phase II	CTCL	Romidepsin monotherapy	Demonstrates meaningful ORR and durable responses.	[50]
Whittaker 2010	Pivotal Phase II	Refractory CTCL	Romidepsin	Confirms efficacy/safety; supports approval.	[49]

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Olsen 2007	Phase IIb	CTCL	Vorinostat	ORR ~30%; key efficacy and safety data.	[51]
Mann 2007	Regulatory summary	CTCL	Vorinostat approval	Details FDA rationale and safety profile.	[52]
Huen 2020	Phase I/Ib	R/R T-cell lymphoma (incl. CTCL)	Tenalisib (PI3K δ/γ)	ORR ~45% in CTCL; acceptable toxicity.	[53]
Carlo-Stella 2020	Phase I	Hem malignancies	Tenalisib	Defines MTD, pharmacokinetics and safety.	[54]
Iyer 2023	Phase I/II	R/R T-cell lymphoma	Tenalisib + romidepsin	ORR ~60%; supports PI3K–HDAC combinations.	[55]
Horwitz 2018	Phase I	T-cell lymphoma (incl. CTCL)	Duvelisib (PI3K δ/γ)	ORR 50%; macrophage reprogramming described.	[56]
Ford 2025	Real-world cohort	R/R PTCL/CTCL	Duvelisib + romidepsin	Confirms combination activity and safety in practice.	[58]
Duvic 2015	Phase II	$CD30^+$ CTCL / LyP	Brentuximab vedotin	ORR ~70%; significant symptom improvement.	[59]
Ferreira 2021	Case series	Primary cutaneous ALCL	BV	Two cases with deep and rapid clinical responses.	[60]
Prince 2017 (ALCANZA)	Phase III RCT	$CD30^+$ MF/C-ALCL	BV vs MTX/Bexarotene	ORR4 56.3% vs 12.5%; PFS 16.7 vs 3.5 months.	[61]
Horwitz 2021 (ALCANZA final)	Final analysis	$CD30^+$ CTCL	BV	Confirms durability and tolerability of BV.	[62]
Phillips 2021	Translational	CTCL	Spatial immune topography & PD-1	Granzyme-B^+ $CD8^+$ "hot" microenvironment predicts PD-1 response.	[64]
Khodadoust 2020	Phase II	MF/SS	Pembrolizumab	ORR 38%; durable CR/PR; flare reactions in some patients.	[65]
Walker 2021	Case report	Refractory MF	Pembrolizumab + RT	Illustrates potential synergy between RT and PD-1 blockade.	[66]
Kim 2018 (MAVORIC)	Phase III RCT	MF/SS	Mogamulizumab vs vorinostat	PFS 7.7 vs 3.1 months; ORR 28%; greatest benefit in B2.	[67]
Cowan 2021	Post-hoc	MF/SS	Mogamulizumab	Demonstrates correlation between	[68]

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				blood tumour burden and benefit.	
Fernández-Guarino 2024	Narrative review	CTCL	Mogamulizumab in practice	Summarises real-world effectiveness and safety.	[69]
Beylot-Barry 2018	Phase II	Relapsed/refractory PCDLBCL-LT	Lenalidomide monotherapy	ORR 26%; some durable CRs; key option in elderly/frail.	[34]
Al Dhafiri 2019	Case series	Relapsed PCDLBCL-LT	Lenalidomide	Additional support for lenalidomide activity.	[71]
Di Raimondo 2019	Case series	Refractory PCDLBCL-LT	Rituximab + lenalidomide + pembrolizumab	Achieves durable CRs after multiple prior lines.	[35]
Moore 2022	Case series	R/R PCDLBCL-LT	Rituximab + lenalidomide + ibrutinib	High response rate; suggests synergy between BTK and IMiD.	[36]
Pang 2019	Case report	MYD88/CD79B-mutated PCDLBCL-LT	Low-dose ibrutinib	Rapid and deep remission; BTK "addictive" dependency.	[37]
Pham-Ledard 2014	Molecular/prognostic	PCDLBCL-LT	MYD88 L265P mutation	High frequency; prognostic impact and therapeutic relevance.	[38]
Zhou 2018	Genomic study	PCDLBCL-LT	Immune-evasion gene alterations	B2M and PD-L1/PD-L2 alterations define immune escape.	[39]
Fox 2018	Mechanistic	PCDLBCL-LT	Ibrutinib resistance mechanisms	Acquisition of PIM1 and other lesions at progression.	[63]

Abbreviations:
CTCL, cutaneous T-cell lymphoma; PCBCL, primary cutaneous B-cell lymphoma; MF, mycosis fungoides; SS, Sézary syndrome; PCFCL, primary cutaneous follicle centre lymphoma; PCDLBCL-LT, primary cutaneous diffuse large B-cell lymphoma, leg type; WHO, World Health Organization; EORTC, European Organisation for Research and Treatment of Cancer; ISCL, International Society for Cutaneous Lymphomas; NCCN, National Comprehensive Cancer Network; ICC, International Consensus Classification; TCR, T-cell receptor; BCR, B-cell receptor; NF-κB, nuclear factor kappa-B; JAK, Janus kinase; STAT, signal transducer and activator of transcription; LC-OCT, line-field confocal optical coherence tomography; TAM, tumour-associated macrophage; GVHD, graft-versus-host disease; CAR-T, chimeric antigen receptor T-cell therapy.