

| Statin | Study / model | Skin-application take-home |
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| Atorvastatin | Toker et al. Am J Med Sci 2009 ; streptozotocin-induced diabetic rat wounds; topical atorvastatin 1% and 5% in lanolin/vaseline. | Direct topical atorvastatin markedly improved diabetic wound closure. By day 14, healing was about 96.6% with 1% and 96.5% with 5% atorvastatin versus 14% untreated and 40% vehicle. |
| Atorvastatin | Farsaei et al. Pharmacotherapy 2014 ; randomized, double-blind, placebo-controlled human trial; 104 critically ill patients with stage I/II pressure ulcers; topical atorvastatin 1% ointment once daily for 14 days. | Strong human support for cutaneous atorvastatin: ulcer stage and surface area improved significantly versus placebo by days 7 and 14. |
| Atorvastatin | Ala et al. World J Surg 2017 ; randomized, double-blind, placebo-controlled human trial; 66 patients after open hemorrhoidectomy; topical atorvastatin 2% emulgel every 12 hours for 14 days. | Local postoperative wound healing improved by week 2, with less pain during defecation. Supports local statin activity on healing mucocutaneous surgical wounds. |
| Atorvastatin | Morsy et al. Pharmaceutics 2019 ; rat excision-wound model comparing topical atorvastatin gel, emulgel, and nanoemulgel. | Nanoemulgel improved skin permeation, had the highest percent wound contraction, and achieved complete wound closure/epithelization within 21 days in rats. |
| Atorvastatin | Saghafi et al. Int Wound J 2023 ; randomized, double-blind, placebo-controlled human trial; 60 adults after laparotomy; topical atorvastatin emulgel 1% or nano-emulgel 1% twice daily for 14 days. | Both formulations accelerated wound healing and reduced pain. Nano-emulgel cut REEDA scores by 63% at day 7 and 93% at day 14, outperforming placebo. |
| Lovastatin + cholesterol | Sandoval et al. An Bras Dermatol 2019 ; infant case report of CHILD syndrome treated with topical lovastatin plus cholesterol lotion. | Complete clearance of the CHILD nevus. Strong pathogenesis-directed proof that local statin-based therapy can normalize a mevalonate-pathway skin disease. |
| Lovastatin + cholesterol | Atzmony et al. J Am Acad Dermatol 2020 ; 5-patient porokeratosis case series (DSAP, PPPD, linear porokeratosis) using topical cholesterol/lovastatin twice daily for up to 3 months. | Near-complete DSAP clearance after 4 weeks and moderate improvement in PPPD/linear lesions; cholesterol alone did not correct the phenotype; no adverse events reported. |
| Lovastatin | Ugwu et al. JAAD Case Rep 2020 ; familial DSAP case treated with 2% lovastatin ointment monotherapy. | Successful treatment with lovastatin alone suggests the statin itself can be topically active, not only the statin plus cholesterol combination. |
| Lovastatin +/- cholesterol | Santa Lucia et al. JAMA Dermatol 2023 ; randomized clinical trial in 31 adults with DSAP; topical lovastatin 2% plus cholesterol 2% versus lovastatin 2% alone for 12 weeks. | Best contemporary human evidence in dermatology: DSAP severity fell 50.0% with lovastatin/cholesterol and 51.4% with lovastatin alone; no serious adverse events. |
| Simvastatin + cholesterol | Alexopoulos and Kakourou. Pediatr Dermatol 2015 ; CHILD syndrome case report using topical simvastatin/cholesterol ointment. | Human proof-of-concept for topical simvastatin: skin lesions improved significantly within the first 30 days. |
| Simvastatin | Asai et al. Am J Pathol 2012 ; diabetic mouse full-thickness skin wounds treated topically with simvastatin. | Topical simvastatin accelerated wound recovery and increased both angiogenesis and lymphangiogenesis, supporting a direct pro-healing skin effect. |
| Simvastatin | Kallis et al. Pediatr Dermatol 2022 ; 10-month-old girl with CHILD syndrome treated with topical 5% simvastatin ointment monotherapy twice daily. | Rapid, near-complete clearance supports simvastatin monotherapy as another locally active pathogenesis-based option. |
| Simvastatin +/- cholesterol | Chen et al. J Am Acad Dermatol 2025 ; randomized, single-blind, split-body, placebo-controlled trial in 18 patients with porokeratosis ptychotropica; topical simvastatin 2% or simvastatin 2% plus cholesterol 2%. | Eight of eight simvastatin-treated and seven of eight simvastatin/cholesterol-treated sides beat placebo at week 8; improvement continued to week 48; no treatment-related adverse events. |
| Rosuvastatin | Zaki et al. Pharmaceutics 2022 ; rat excision-wound model using topical rosuvastatin transethosomal gel. | Topical rosuvastatin formulation outperformed drug-loaded gel and standard silver sulfadiazine at day 21 (92% healing versus 77% and 88%, respectively), supporting local skin delivery. |
| Pravastatin | Sabei et al. Polymers 2022 ; geranium oil-based nanoemulsion loaded with pravastatin for experimental burn wounds. | Combination topical formulation showed enhanced wound closure, 4-fold lower mean burn-wound diameter, lower IL-6, stronger antibacterial activity, and 7.6-fold higher skin permeation than pravastatin dispersion. |
| Topical statins (class review) | Martini et al. Clin Exp Dermatol 2026 ; systematic review of topical statins for porokeratosis (24 studies, 95 patients). | Class-wide summary: 92% (87 of 95) improved, responses could appear by 4 weeks, and adverse events were mostly mild localized reactions. Supports topical statins as a plausible local skin therapy. |