

피부투과 펩타이드 기반 신개념 경피전달 플랫폼을 활용한 탈모치료제 및 두피/피부케어 화장품 기술

Skin-Penetrating Peptide-Based De Novo Transdermal Delivery Platform for Hair Loss Treatment and Scalp/Skin Care Applications

PTB Bio

Pierce The Barrier via Peptide-based Transdermal Booster

01 Platform Technology

Publications & Patents

경피전달 플랫폼기술: 10-2024-0052460 (국내특허 출원)
Biomacromolecules 2024, 25, 436 (IF=5.4, 상위 4.4%)

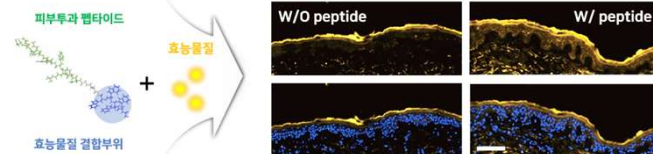
피부암치료: 10-2024-0145781 (국내특허 출원)
 PCT/KR2025/000813 (PCT 출원)
Adv. Funct. Mater. 2025, 35, 2412160 (IF=19.0, 상위 4.5%)

탈모치료: 10-2025-0150669 (국내특허 출원)
 PCT/KR2026/001927 (PCT 출원)
Biomacromolecules 2026, 27, 1300 (IF=5.4, 상위 4.4%)

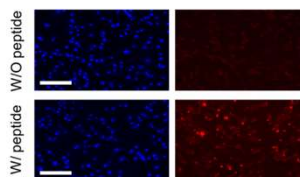
● 물질 경피전달의 어려움



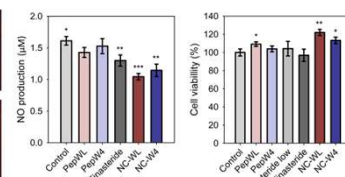
● 기능 1: 효능물질 경피전달(표피/진피 상부)



● 기능 2: 세포내 물질전달

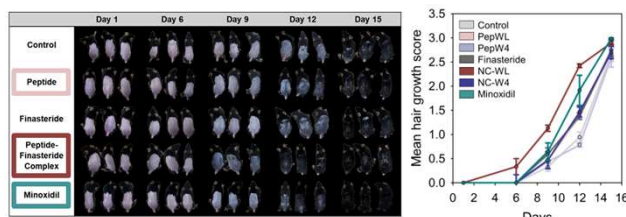


● 기능 3: 운반체 자체 치료효과

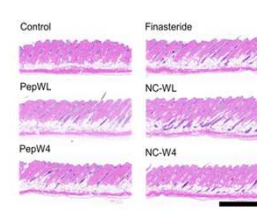


02 Therapeutic and Cosmetic Applications for Hair Loss and Scalp Care

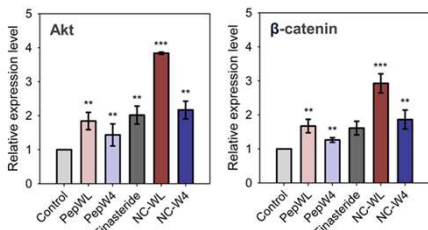
● 모발 성장 속도: Minoxidil 동등 이상 효력 확인



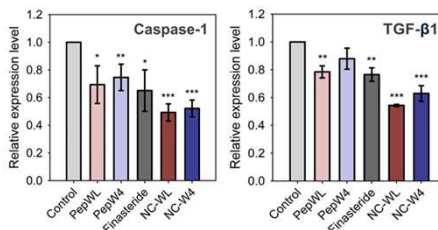
● 모낭 성장기 전환



● 모낭 발달 인자 개선



● 항염증 인자 개선



Competitive Landscape

	M 제품	P 제품	A 제품	F 제품	당사 제품
주성분	Minoxidil	Finasteride	Dutasteride	Finasteride + 고분자	Finasteride + 펩타이드
기전	혈관확장/모낭자극	전신 5α-reductase II 억제, DHT 감소	전신 5α-reductase I+II 억제, DHT 감소	국소 5α-reductase II 억제, DHT 감소	국소 5α-reductase II 억제, DHT 감소 + 항염증 작용
작용부위	국소투여	전신순환 (부작용우려)	전신순환 (부작용우려)	국소투여	국소투여 + 세포내 전달
Finasteride 1회 투여량	-	1 mg	-	0.11-0.46 mg	0.025 mg

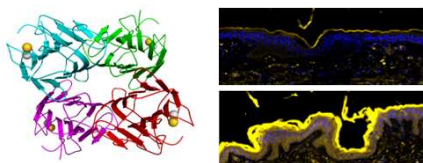
Business Model



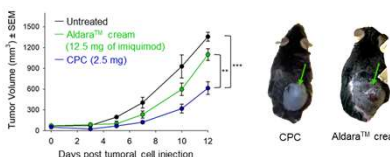
03 Platform Expansion Beyond Hair Loss

Skin Cancer (Melanoma)

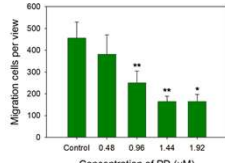
● 항암 단백질의 경피전달



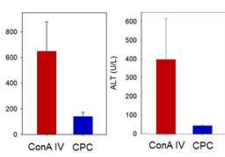
● 기승인 치료제와의 효능비교



● 항전이 효과

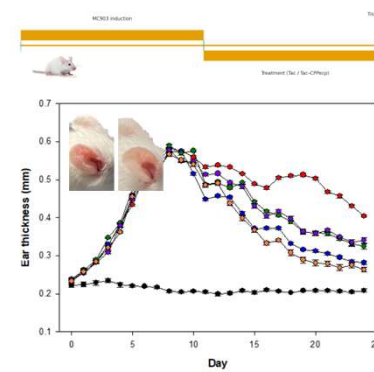


● 전신독성 최소화

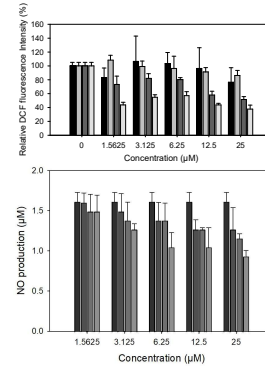


Dermatological and Cosmetic Applications (unpublished)

● 아토피 치료 효능



● 항염증/항산화 효과



04 Funding

● 보건 의료 R&D 핵심 기술 Early Boost 사업, 보건복지부

● 실험실 특화형 창업선도대학, 과학기술정보통신부



PTB Bio Co., Ltd.

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Transdermal delivery platform for next-generation dermocosmetics and therapeutics