

Array / Patch

MULTI-AWARD WINNING INNOVATIVE DRUG DELIVERY TECHNOLOGY





DerMap - patent protected dissolving microneedle drug delivery platform



Attractive therapeutic applications identified targeting ~\$70bn markets



Breakthrough – dissolving microneedles with 100% drug loading



Multiple exit routes for significant ROI potential



Low development risk – novel delivery of approved medicines



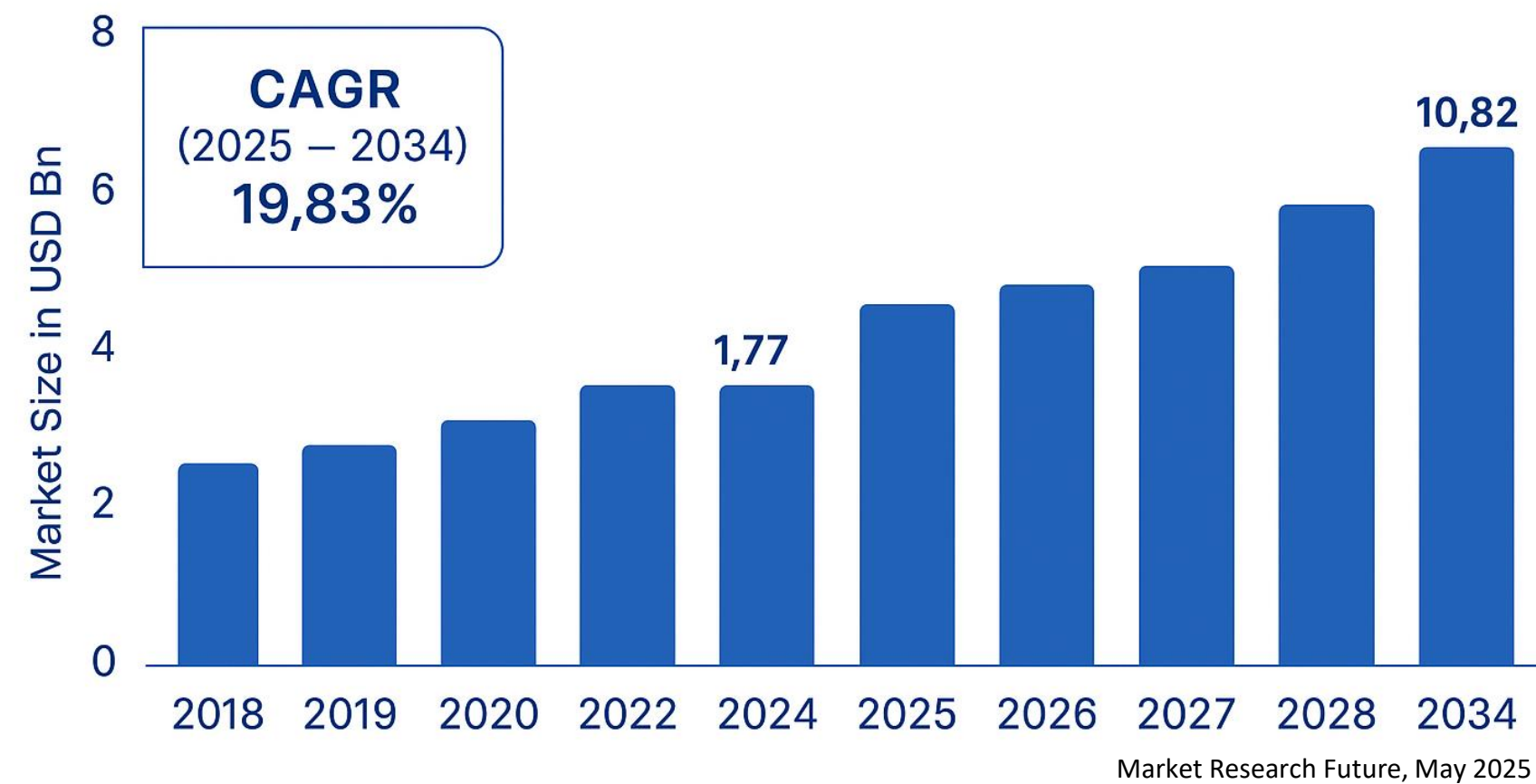
Experienced team assembled

KEY MILESTONES TO DATE

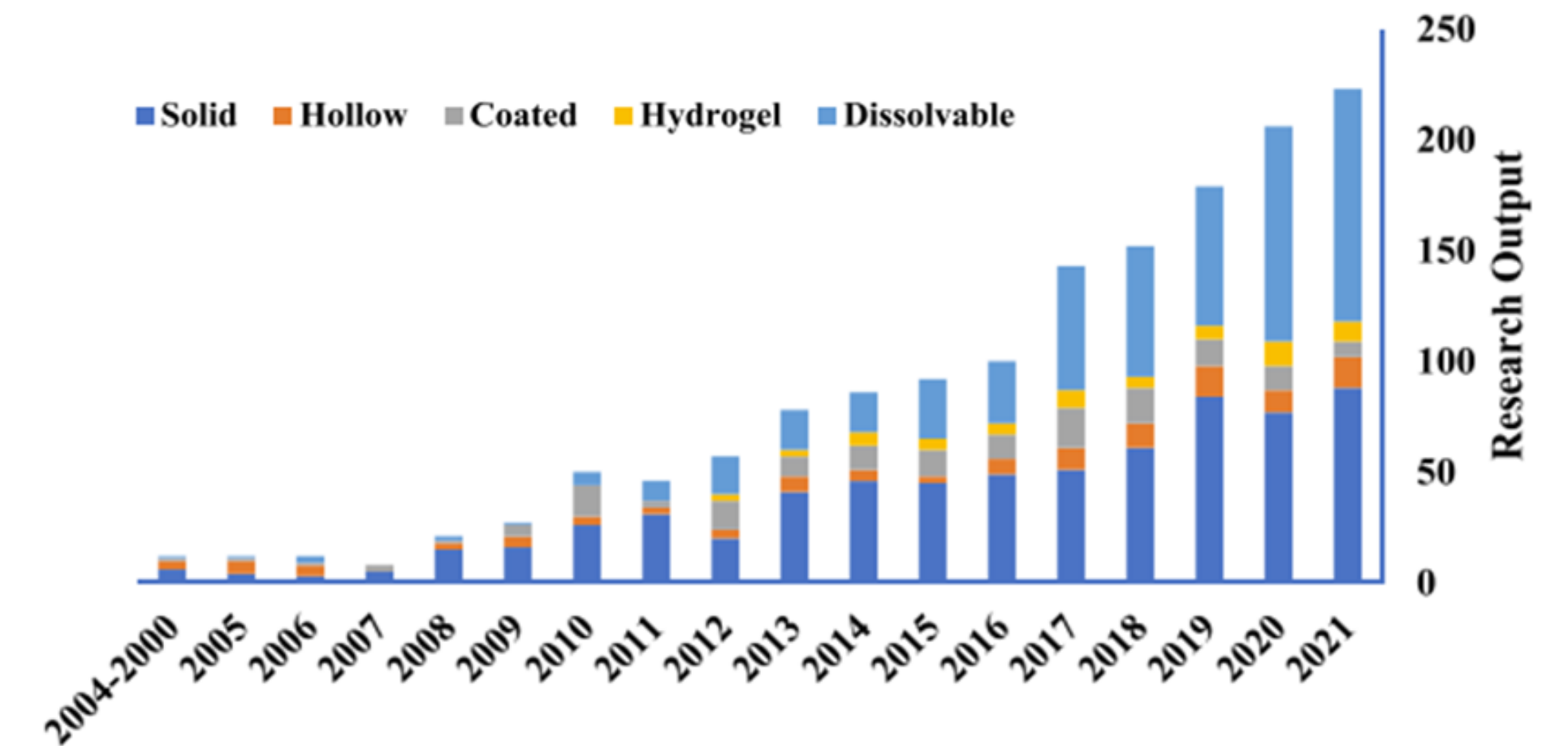


MICRONEEDLE PATCH DRUG DELIVERY MARKET OVERVIEW

\$2BN GLOBAL MARKET > \$10BN in 2034



INDUSTRY RESEARCH FOCUS: SOLID & DISSOLVING PATCHES



Rationale

- Fear of needles; reduce sharp waste
- Healthcare saving (self administration)
- Accessibility: eliminate of need for cold chain storage

Growth Drivers

- Increase in chronic diseases
- Need to target delivery for greater efficacy and safety
- Cosmetic use; vaccines

Microneedle Types

- Solid microneedles lead the market but are expected to decline due to their inefficient two-step application process
- Dissolving patches offer the advantage of no additional manipulation following insertion

Problem – Need for Polymers

- Drug delivery success to date hampered due to requirement for polymers - limits on drug loading; drug incompatibility; lack of validated analytical procedures; safety concerns.

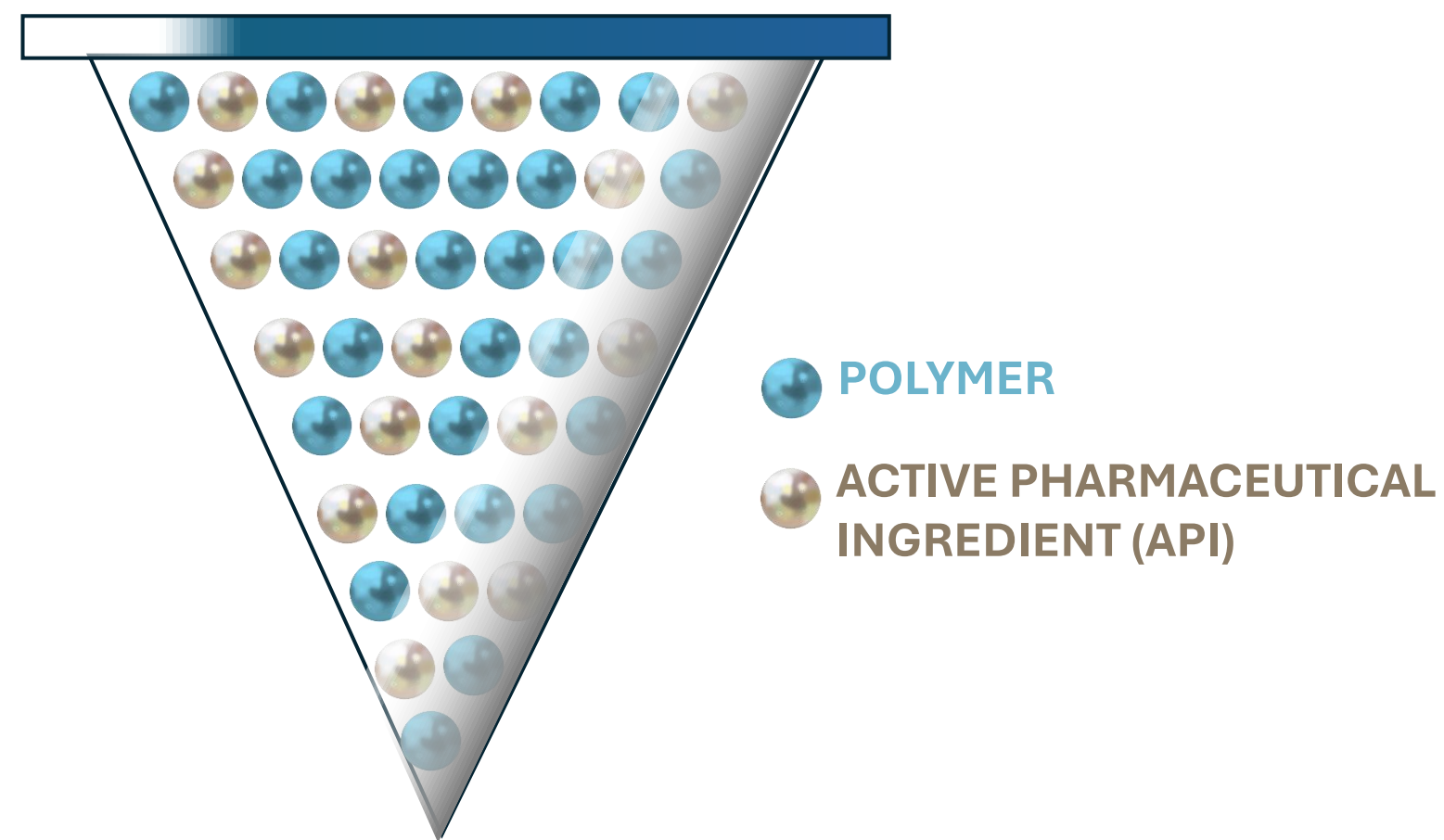
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DISSOLVING MICRONEEDLE PATCH – COMPETITIVE LANDSCAPE

COMPANY	TECHNOLOGY	STAGE	FOCUS	DISSOLVING	POLYMER FREE
Micron	Microarray	Clinical – IIb	Vaccines	✓	✗
Vaxess Technologies	MIMIX™	Clinical – I	Vaccines	✓	✗
CosMed Pharmaceuticals	Soluble microneedles	R&D	Cosmetics	✓	✗
Vaxxas	HD-MAP	Clinical – I	Vaccines	✓	✗
ArrayPatch	DerMap™	Pre-clinical	Small molecules	✓	✓

- DerMap™ is highly differentiated - the only technology with microneedles made entirely from drug
- Competitors mostly focusing on vaccines
- DerMap™ is a unique platform technology with applications across multiple therapeutic areas already in development including nail fungal infection, skin cancer, migraine and small peptides.

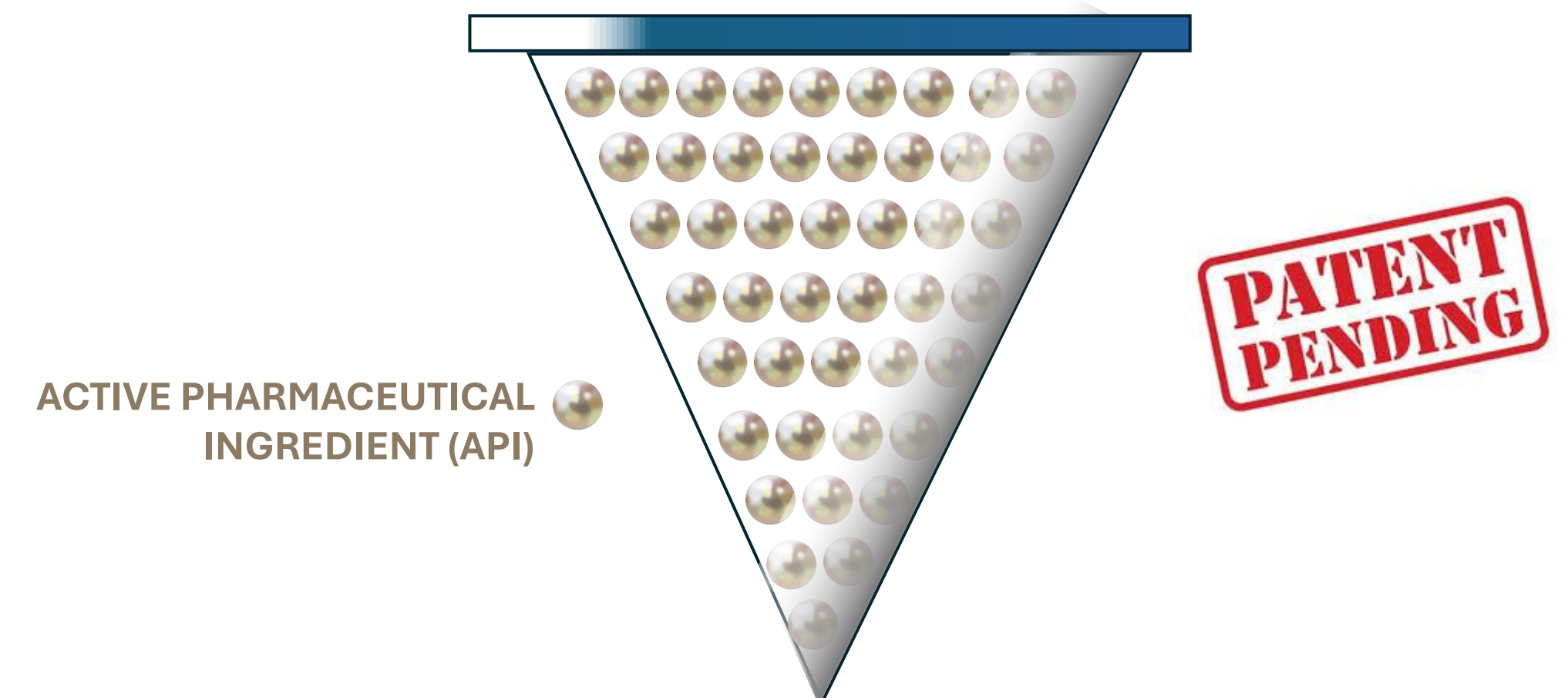
COMPETITOR DISSOLVING MICRONEEDLE PATCH TECHNOLOGY



- Up to 80% of microneedle made from polymer to ensure structural integrity
- As little as 20% room left for API

- ✗ Reduces drug loading potential
- ✗ Reduces efficacy and dosing flexibility
- ✗ Potentially increases safety risk

DERMAP™ DISSOLVING MICRONEEDLE PATCH TECHNOLOGY

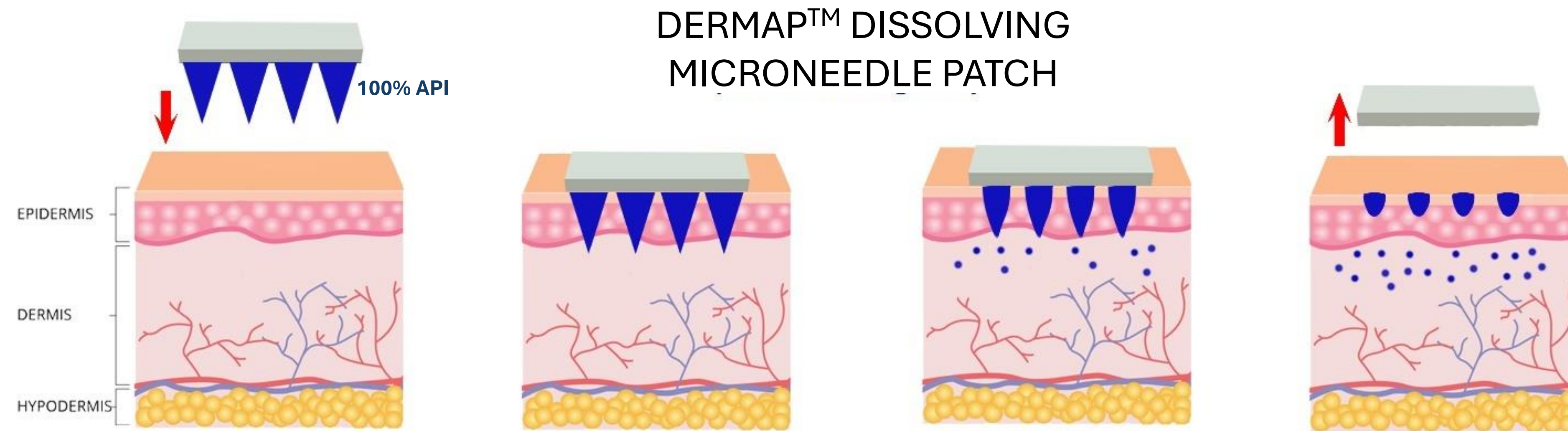


- Uniquely, up to 100% of microneedle made from API; no polymer
- Basis of ArrayPatch patent¹

- ✓ Maximum drug loading potential
- ✓ Increases efficacy and dosing flexibility
- ✓ Potentially reduces safety risk





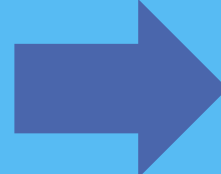
¹Patent filed 2020, [WO2020250210A1](#)

Array Patch | DERMAP™ – UNLOCKING THE POTENTIAL OF THE MICRONEEDLE PATCH



- DerMap™ patch is pressed onto the skin – painless as only penetrates the outer skin (stratum corneum)
- Applied overnight, removed in morning
- Microneedles dissolve, allowing delivery of drug payload
- Platform: pipeline of small molecules identified with specific properties suitable for formulation into microneedles

Array Patch | DERMATOP DELIVERY PLATFORM – Multiple Products

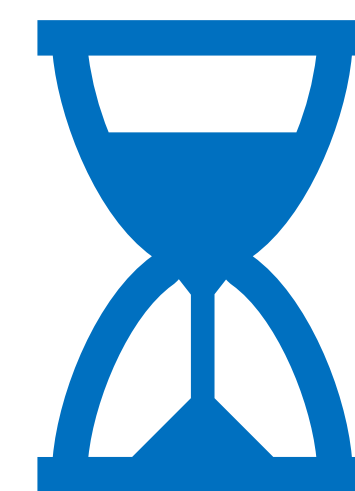
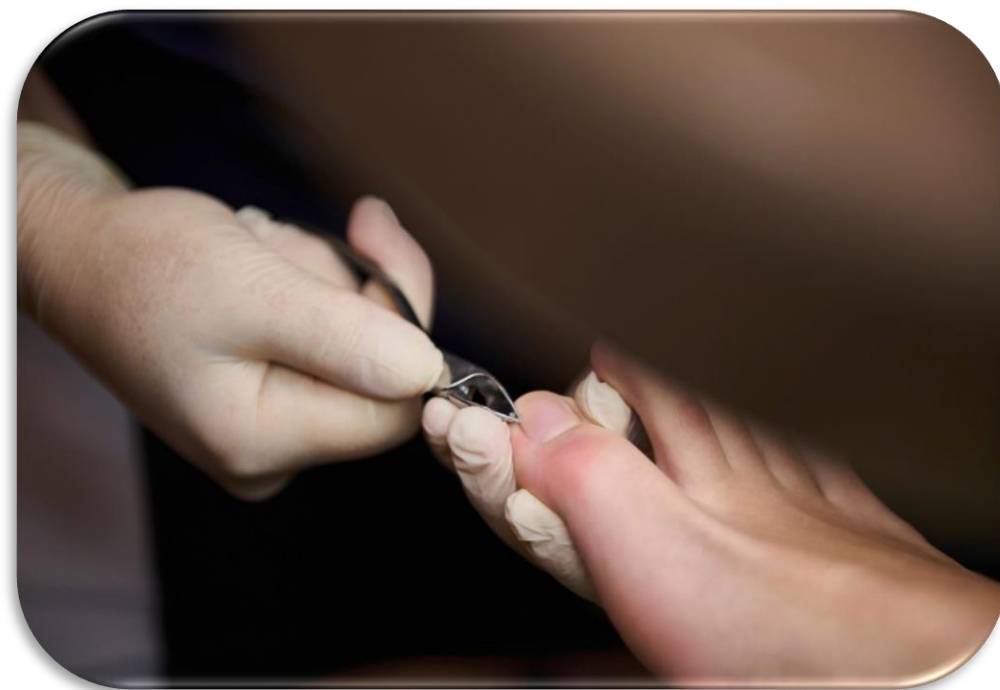
Product	Research	Preclinical	Phase I	Phase II/III	Market
ITZ-DerMap Nail fungus					\$6BN
VES-DerMap Basal Cell Carc					\$10BN
BET-DerMap Psoriasis					\$34BN
ZOL-DerMap Migraine					\$6BN
Others 14 molecules					-

- Reduced development risk – all molecules being delivered are already approved
- Strong IP - DerMap™ Technology patent filed – US/EU/S Korea, expiry 2041; additional IP planned
- Additional pipeline opportunities – approaches from 3rd parties for research collaborations

1 in 4 people can be
affected with nail
fungal infection
at any given time



Onychomycosis (nail fungal infections)



Current treatments
(oral/topical) up to 1
year – **only 1 out of 3**
show cure response



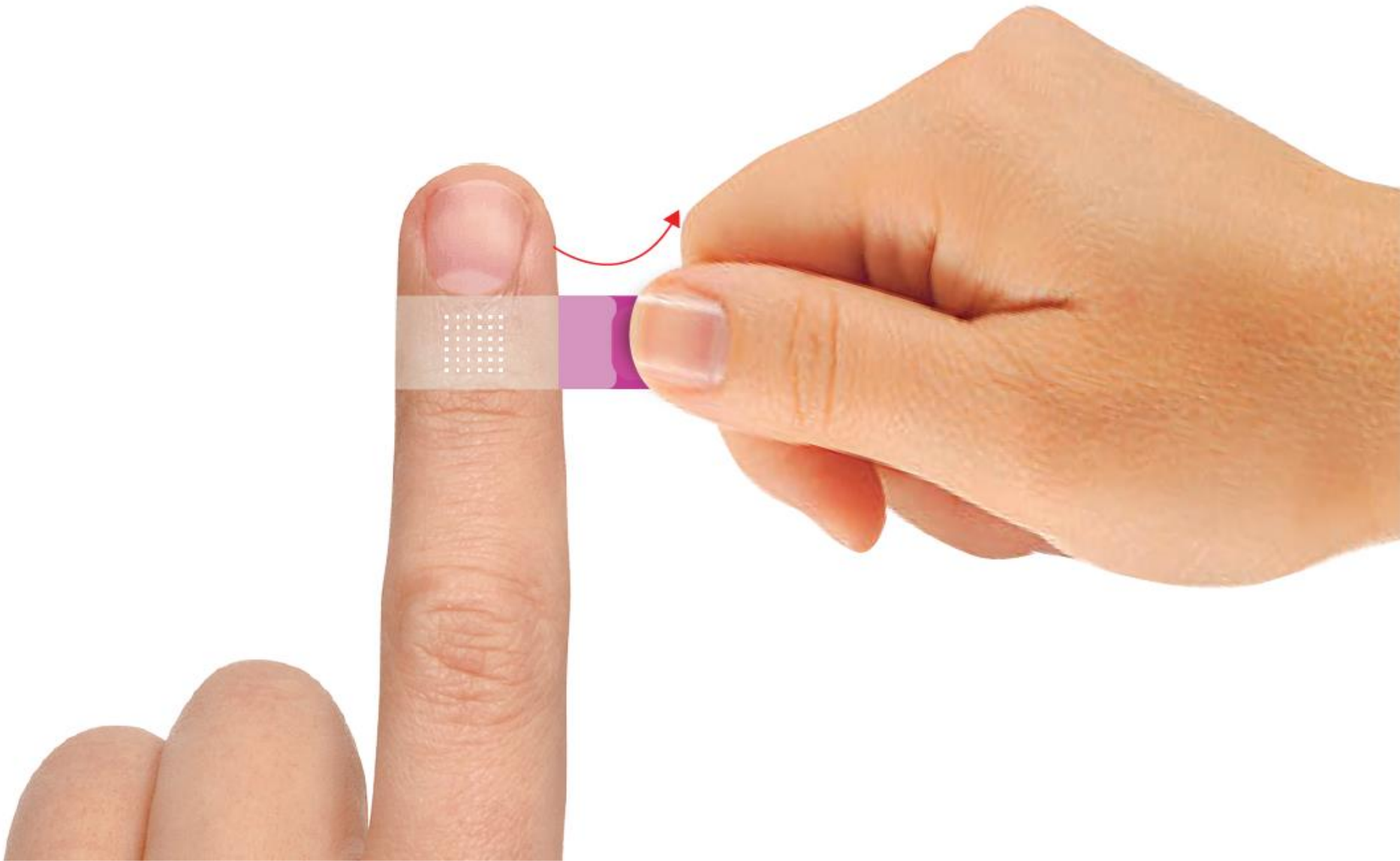
Severe **liver toxicity**
with current oral
treatments

ITZ-DerMap™

Delivery of previously approved nail fungal drug itraconazole via DerMap microneedle patch



Dermap patch / Removing the applicator



ITZ-DerMap™

Delivery of previously approved nail fungal drug itraconazole via DerMap microneedle patch



<https://www.youtube.com/watch?v=F6jPA9liUMc>

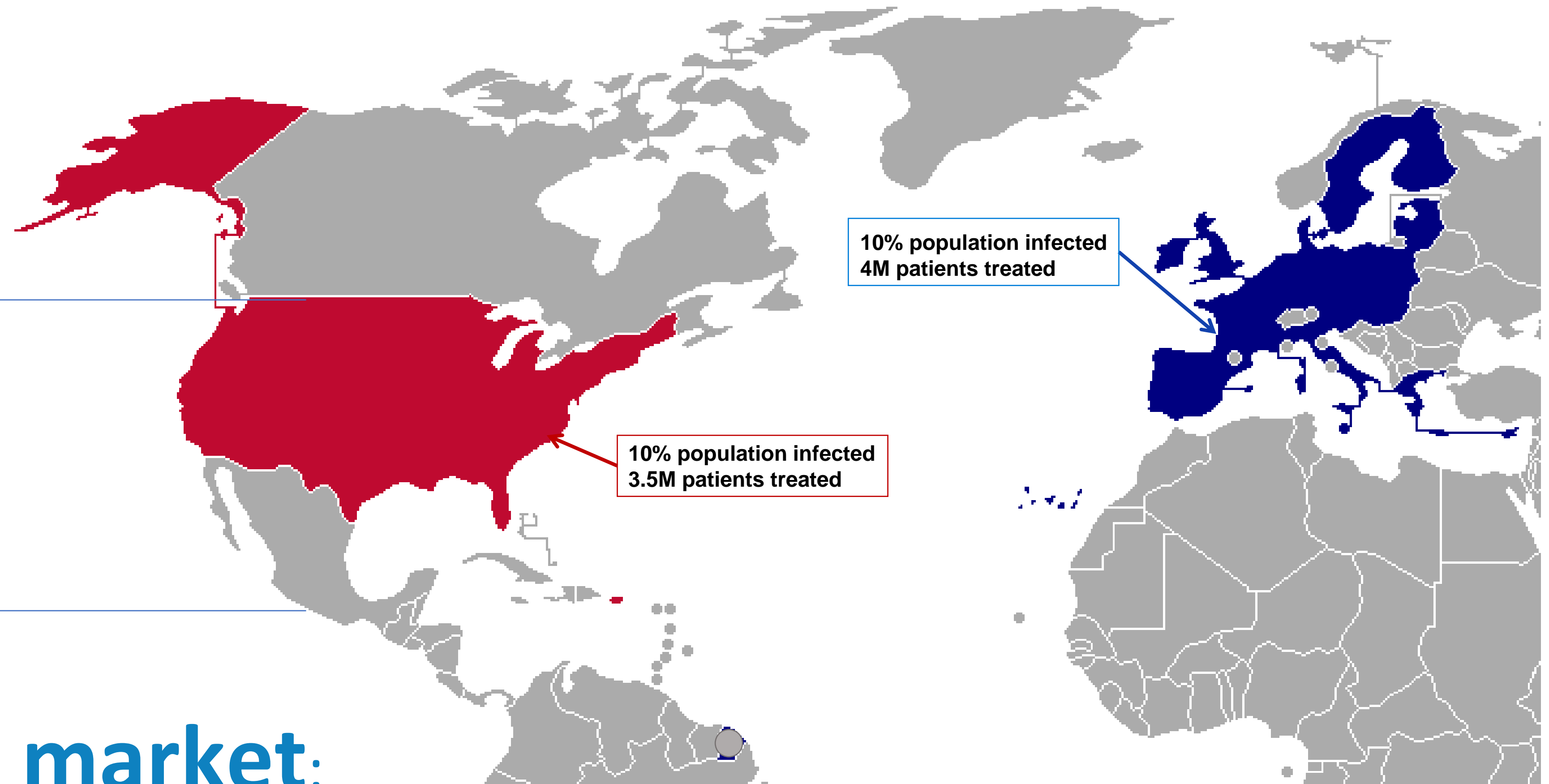
NAIL FUNGUS - MARKET OPPORTUNITY

TAM \$6.2B

SAM \$1.4B

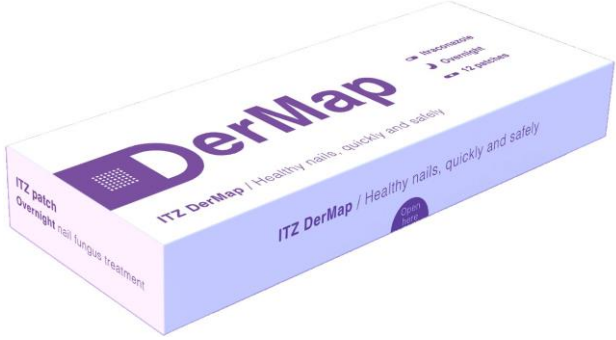










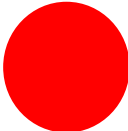
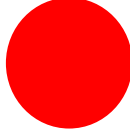
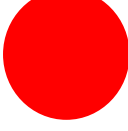
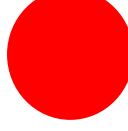





Beachhead market:

Diabetics > 150m suffer from nail infection



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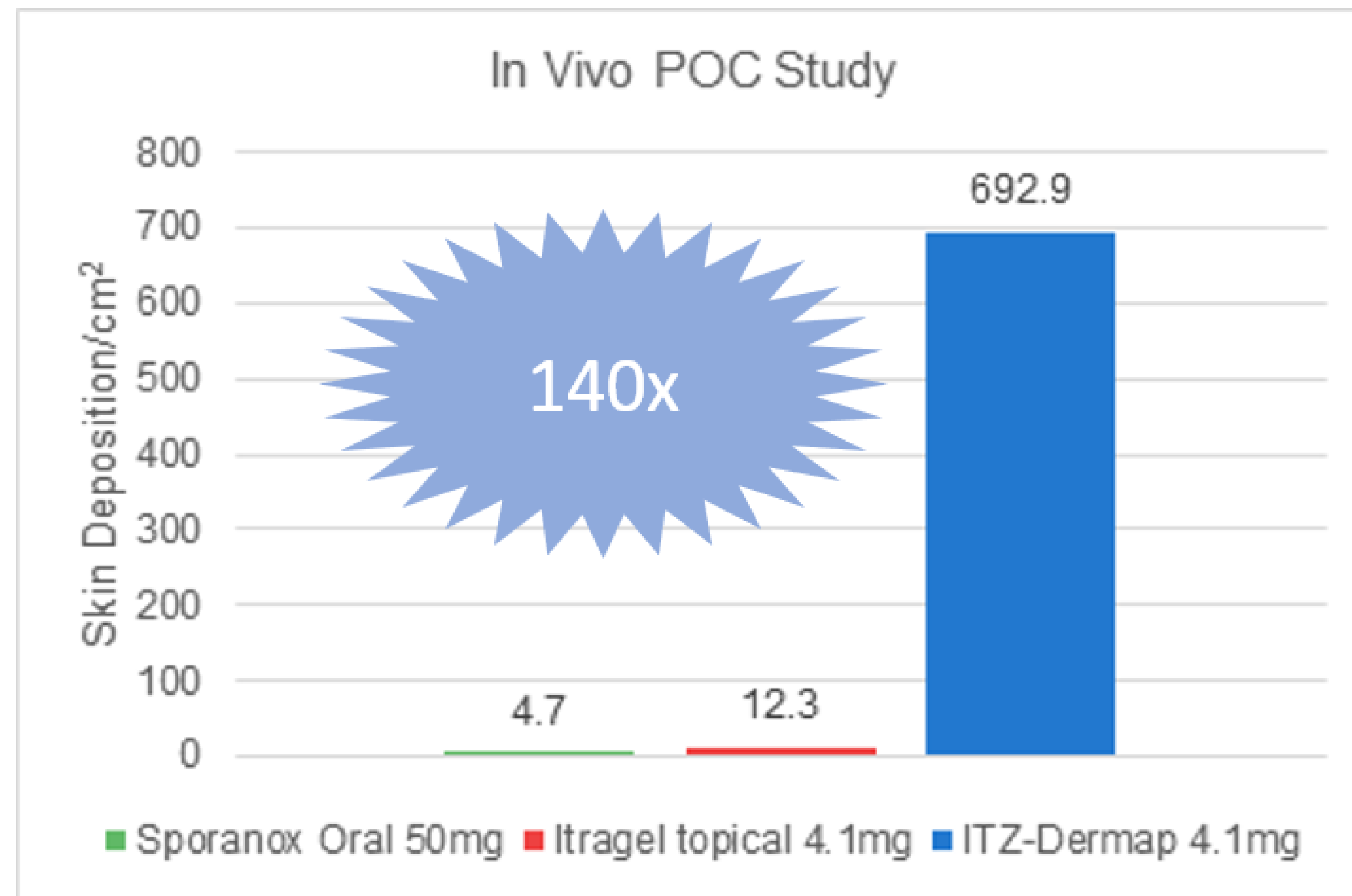
ITZ-DerMap™ DIFFERENTIATION Vs COMPETITORS

		Dose	Skin deposition	Liver toxicity	Dose Frequency
DerMap 12 Patches		Low 1/10 	High 140x 	Low 	Once/week 
Lamisil® 1% w/w cream (GSK)		High 	Low 	Low 	Twice/day 
Lamisil® 250mg (GSK) 14 tablet		High 	Low 	Yes 	Twice/day 
SPORANOX® 100mg (Janssen-Cilag Ltd) 28 capsules		High 	Low 	Yes 	Twice/day 

ITZ-DerMap™ DEVELOPMENT STATUS

KEY DEVELOPMENT HIGHLIGHTS

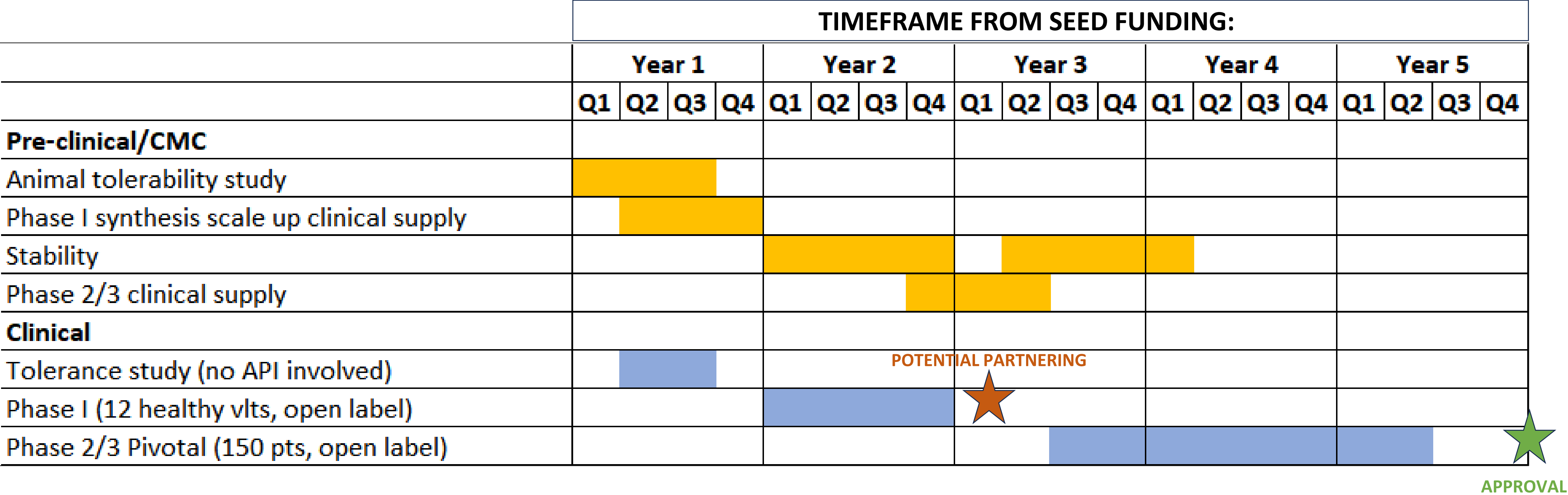
- ✓ 6 month stability studies
- ✓ Penetrative ability studies
- ✓ Bioavailability studies
- ✓ In vivo proof of concept studies (versus current therapy)
- ✓ Manufacturing scale up designed
- ✓ Prototypes
- ✓ HPRA/EMA/BfArM engagement – advice on clinical plan received



- 140 times greater skin deposition of active medicine (itraconazole) versus oral delivery of the same medicine
- Provides basis for more effective and safer treatment

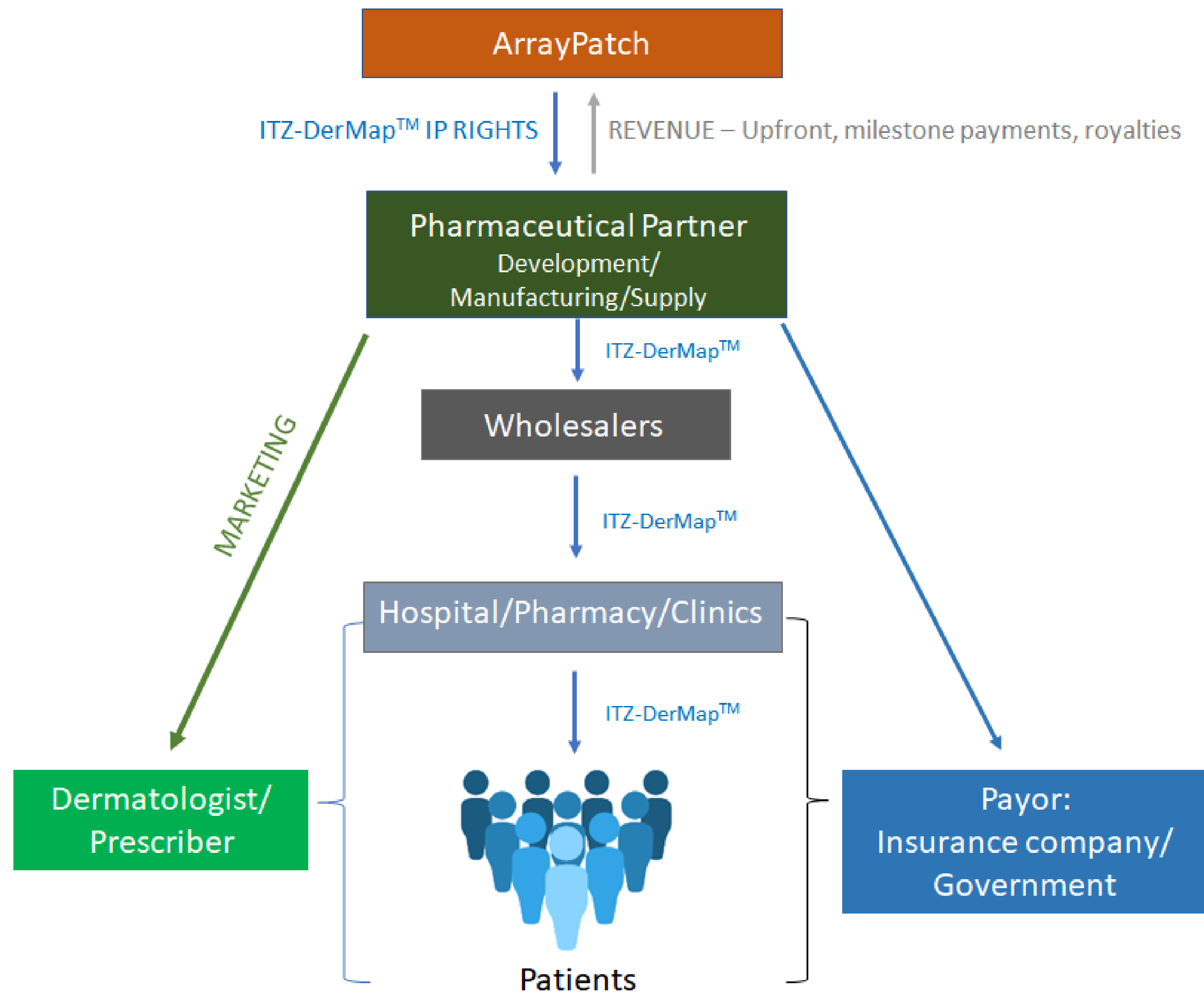
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ITZ-DerMap™ DEVELOPMENT PLAN TO APPROVAL



- Development for US and Europe
- Leverage shortened 505(b)(2) US development path given itraconazole already approved
- CRO input and proposals received
- Plan subject for further regulatory guidance

ITZ-DerMap™ GO TO MARKET STRATEGY



- License to larger commercial partner post initial clinical trials
- Partner responsible for final development studies, launch and sales
- Reduces financial, clinical and execution risk
- Provides validation for technology.
- Partnering revenues to fund pipeline development
- **Positive partnering discussions already underway**

Array Patch | ITZ-DerMap™ PEAK REVENUE POTENTIAL (US)

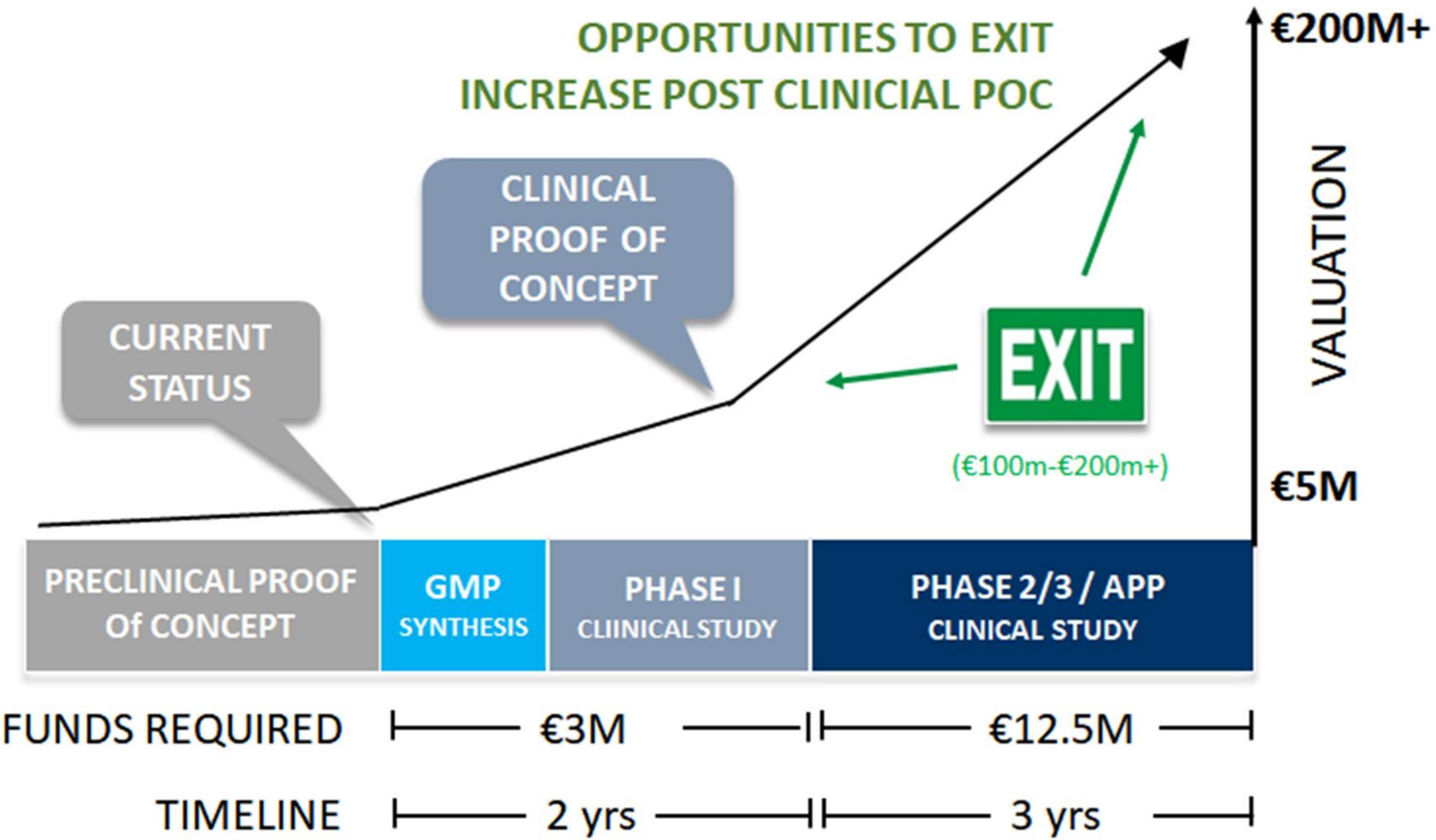
	Topical	Oral	OTC	Total
TRx/pts (M)	2.1	2.4	1.0	5.5
Peak Mkt Share	10%	5%	1%	
AWP Price \$	1,500	1,500	1,500	
Deductions	50%	50%	50%	
Peak Net Revenues \$M	159	89	7	255

Sources: Cleveland Clinic; Wilsons analyst reports on Hexima; Moberg Pharma; TRx – total prescriptions; pts = patients.



- US represents main target market - peak US revenues \$200-300M
- Upside – penetration of ~30M currently untreated patients in the US; strong clinical efficacy/safety
- Lower EU revenue potential given prevalence of OTC treatments; lower pricing available

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ITZ-DerMap™ PRODUCT/FUNDING ROADMAP

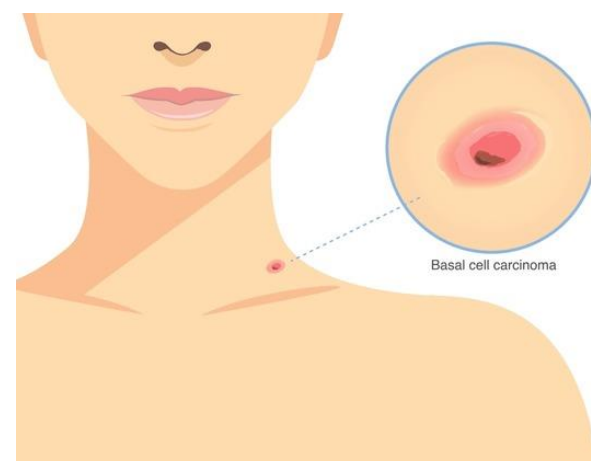


EXIT – BENCHMARK TRANSACTIONS

ALTARIS	2020: Acquired microneedle drug delivery business Kindeva	\$650M
	2019: Licensed European rights to topical nail fungus treatment from Moberg	€50M plus royalties
	2017: Licensed European rights to novel anti-fungal therapeutic from Basilea	\$500M plus royalties

- Likely partners for ITZ-DerMap™ identified: Bausch, Karo, Almirall, Sandoz, Sanofi, Galderma
- Likely CDMO technology acquirors: LTS Lohman, Kindeva, Hovione, Becton Dickinson, Merck, J&J

PIPELINE OPPORTUNITIES - PRECLINICAL



VES-DERMAP™

Basal Cell Carcinoma

- Certain areas of body not suitable for surgery – e.g. Face, elbow, knee
- Oral medication difficult to tolerate
- Ves-DerMap™ offers potential solution applying patch adjacent to BCC

\$10BN



BET-DERMAP™

Psoriasis

- Thicker skin around elbows and needs makes targeting plaque more difficult
- BET-DerMap™ is designed to target medicine into the dermis for more effective outcomes

\$34BN



ZOL-DERMAP™

Migraine

- Current treatment can take >2hrs to work
- Patients need faster treatment
- ZOL-DerMap™ offers potential solution applying patch to forehead

\$6BN

RATIONALE

MARKET

€3M SEED TO REACH CLINICAL MILESTONE

SEED USE OF PROCEEDS

ITZ-DerMap™ development costs	€1.7M
Personnel costs	€1.2M
Other (net of tax credits)	€0.1M
Total	€3.0M

SEED MILESTONES TO BE ACHIEVED

- ITZ-DerMap™ GMP manufacturing scale up (for clinical)
- ITZ-DerMap™ Phase I safety data with biomarker readouts supporting Phase 2/3 design
- On-going strategic partner engagement.
- ~2 year runway

CURRENT CAP TABLE*

Founders	10,000	75%
UCC	2,000	15%
Option Pool	1,333	10%
Total	100%	100%

*€235k 5% Convertible loan notes issued to date - will convert at a 20% discount to SEED round.



Lead investor, Lakeside Capital
> €1.8M commitments





CEO/Founder
Waleed Faisal

- Led several EI projects
- Raise > 1.3m funding
- Lead inventor DerMap
- QA Xeolas Pharmaceuticals



CFO
Darren Cunningham

- >25 yrs industry experience
- Co-founder/ former CEO Inflection Biosciences & Mysthera Therapeutics
- Fundraising > \$100M
- Global licensing >\$200M



CSO
Tord Laboda

- >15 yrs industry experience
- Extensive knowledge of the full value chain
- Ex VP and Head of Global Clinical Dev. LEO Pharma



COO
Ryan Bamsey

- >25 years developing and launch of microneedle products
- Design and implement QMS aligned with ISO9001
- >4 years product development





Scientific Advisor
Prof Abina Crean

- Prof Pharmaceuticals, UCC
- >6 years industrial R&D
- >13 years microneedle R&D
- Funded PI in SSPC, SFI



Clinical Advisor
Mary McGonagle

- Board Certified Dermatologist and Dermatopathologist
- >4 years Biotechnology Consultant
- Adjunct Prof



Clinical Advisory
Alan Irvine

- Dermatologist
- Prof Dermatology Trinity College
- > 300 Publications
- Chief Investigator Trials



Regulatory Advisor
Stephen Liggett

- >10 years Regulatory/Product Development Consultant
- Director of Regulatory Affairs at Icon Ltd
- PhD Pharmaceuticals



WHY INVEST?

Unique microneedle technology platform to improve safety and efficacy

Delivering **approved drugs** - short and low risk development pathway

Platform solution, with multiple **exit** opportunities

Market size of 1st application > **\$6B**

Experienced **team**

Array Patch

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