

Pushing the Limits of Transdermal Drug Delivery



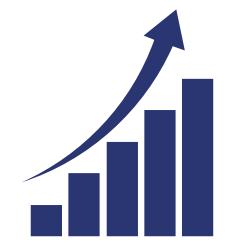
Be part of the transdermal therapy revolution!

BIO-Europe - November 6 – 8, 2023 - Munich, Germany

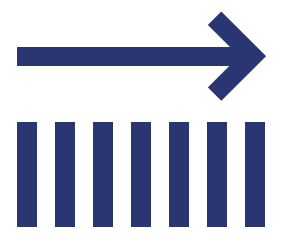
Transdermal drug delivery is a **patient-friendly** way of drug (API) administration, **offering a variety of benefits**, including:



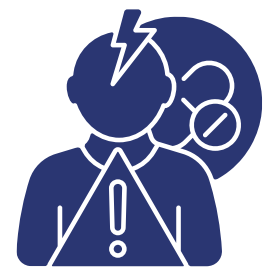
Non-invasive, needle-free administration; i.e. improved patient adherence



Increased bioavailability (vs. oral), i.e. API cost efficiency



Sustained, constant delivery



Reduced side-effects



Biotts' MTC-Y carrier technology platform offers the following breakthrough benefits:

01 Larger molecules like proteins and peptides (up to 6000 Da)

02 Both lipophilic and hydrophilic

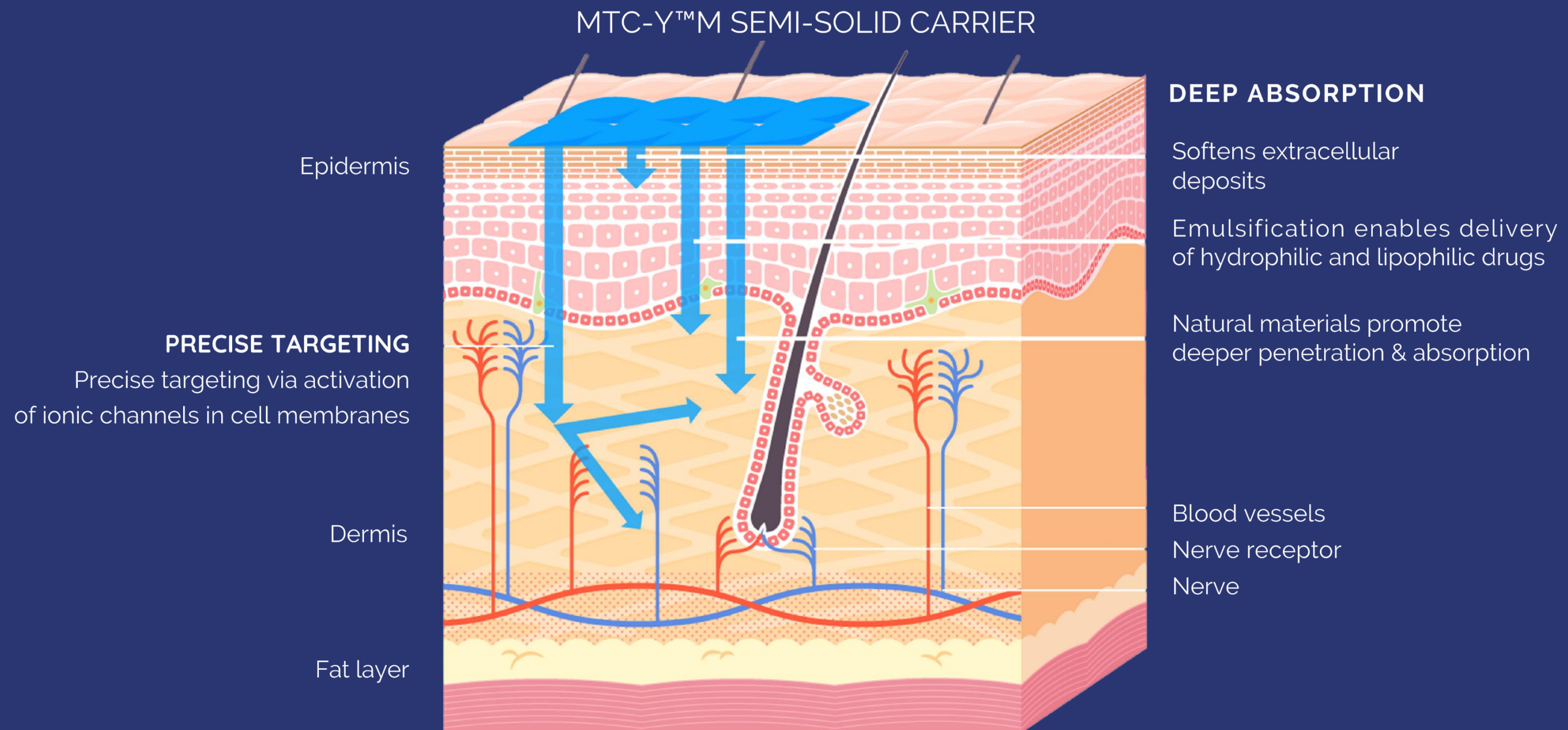
03 Safety confirmed on humans

04 Invention protected by 4 patents

05 Versatile toolkit that may be adapted for a large variety of different molecules



Unlimited opportunities for new transdermal therapies

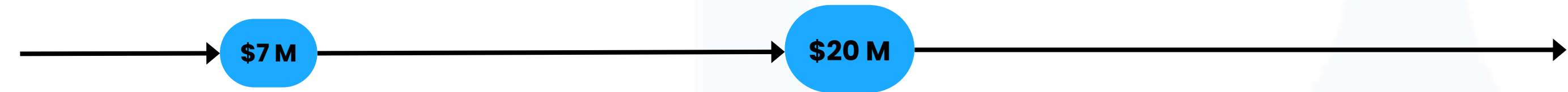


A real game changer in transdermal drug delivery:

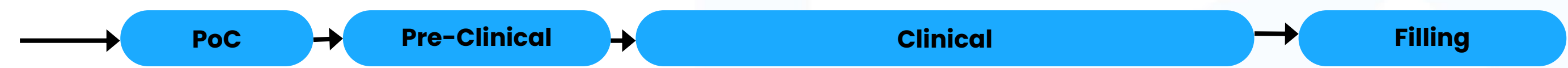
- Proprietary blend of 8 pharmacopeial excipients forming a micellar structure
- Non-invasive; no micro-needles!
- Targeted delivery through skin into blood plasma, synovial fluid etc.



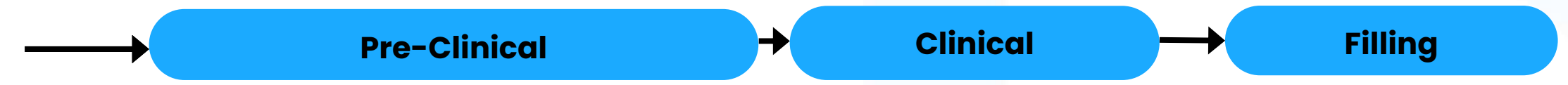
Investment



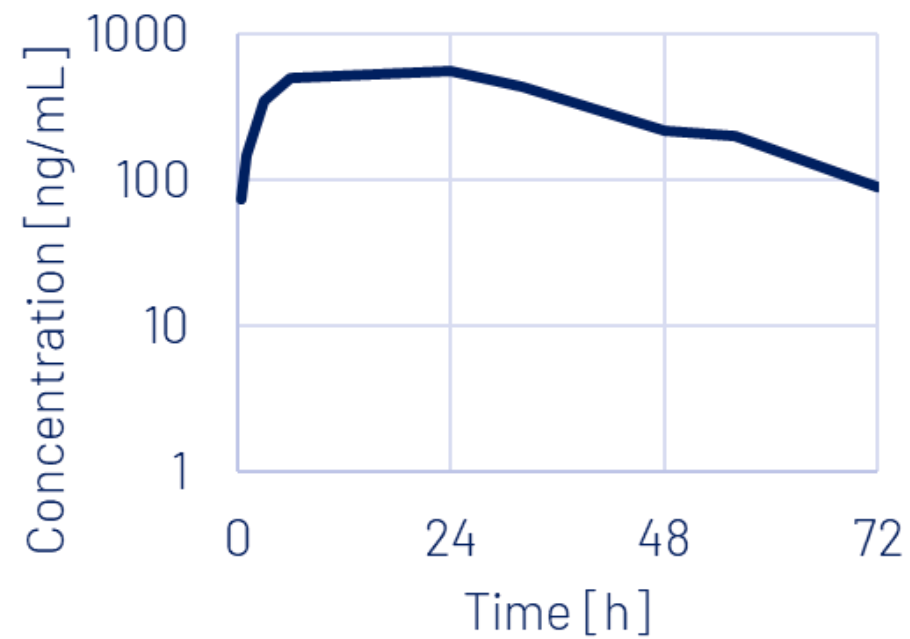
R&D Insulin



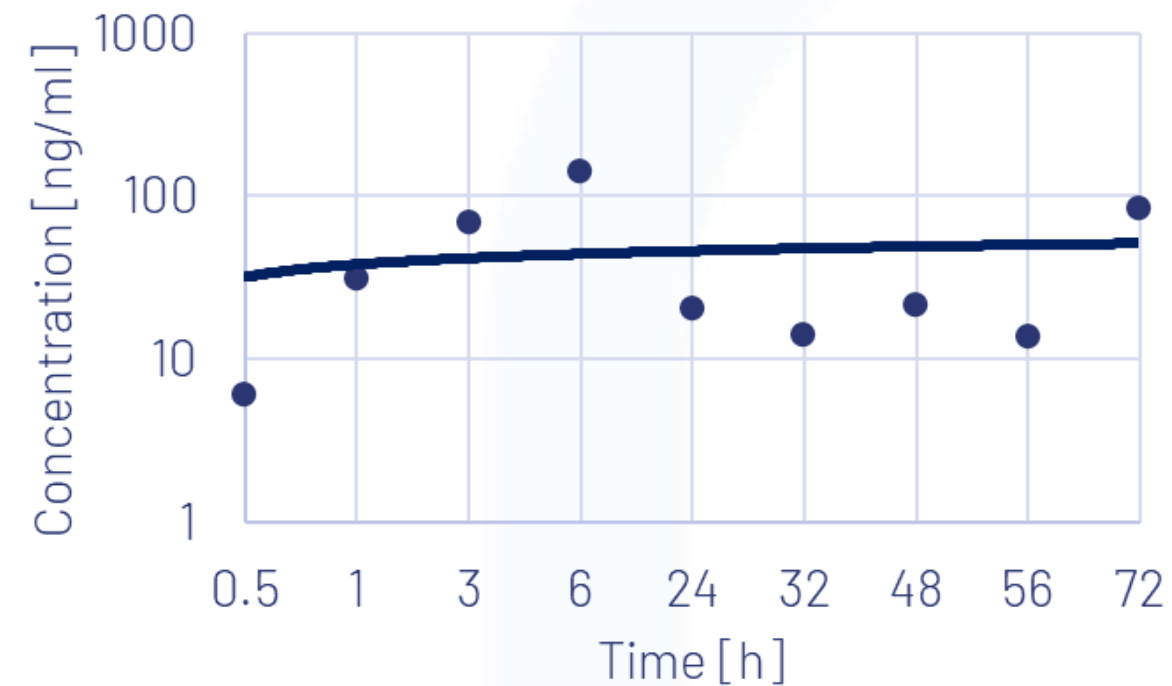
R&D Semaglutide



Subcutaneous
GLP-1 Plasma Concentration



Transdermal MTC carrier
GLP-1 Plasma Concentration



Key Takeaways

First time ever that a peptide like Semaglutide is administered through the skin

Bioavailability 10x higher than oral

Feasible alternative even when compared with injectables

	Subcutaneous
Dose [mg/kg]	0,3
C _{MAX} [ng/mL]	556,0
T _{MAX} [h]	24
AUC _{0→t} [ng·h/mL]	24276,26
AUC _{INF} [ng·h/mL]	26642,57
F _{ABC} [%]	80,5432

	MTC-Y semi-solid carrier
Dose [mg]	2,0
C _{MAX} [ng/mL]	141,78
T _{MAX} [h]	6,0
AUC _{0→t} [ng·h/mL]	2723,58
AUC _{INF} [ng·h/mL]	5575,66
F _{ABC} [%]	4,1222

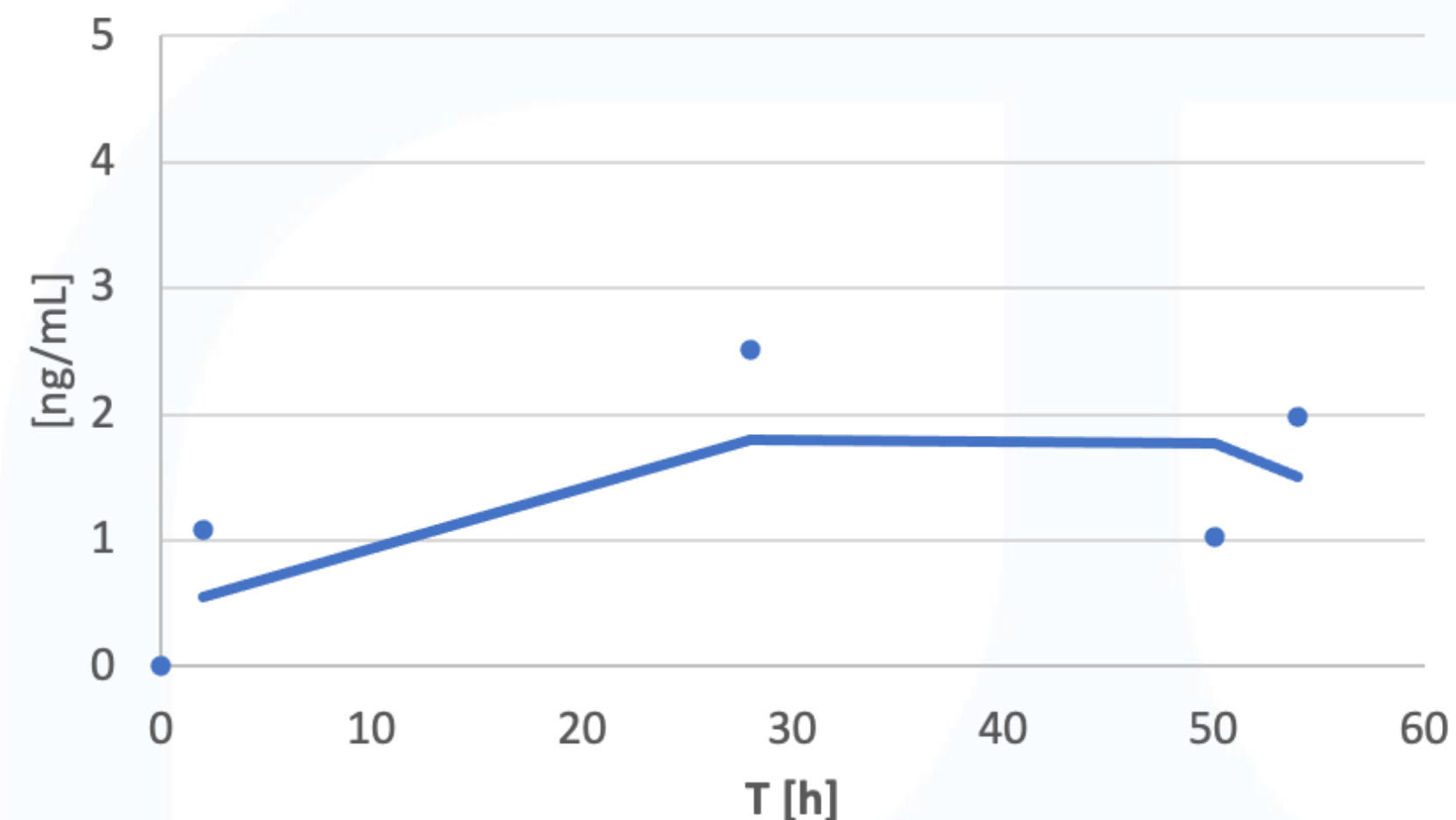
Transdermal Insulin Plasma Concentration

Timepoint [h]	0	2	28	50	54
Insulin Plasma Level [ng/mL]	0	1,09	2,52	1,02	1,98

Insulin plasma level by Elisa

Formulation	Insulin Dose [mg/animal]	Timepoint	Ave Insulin plasma level [ng/mL]
Subcutaneous	0,035	2h	2,98
Formulation Biotts (B)	0,75	2h	1,09
Formulation Biotts (e2)	0,37	1h	2,29

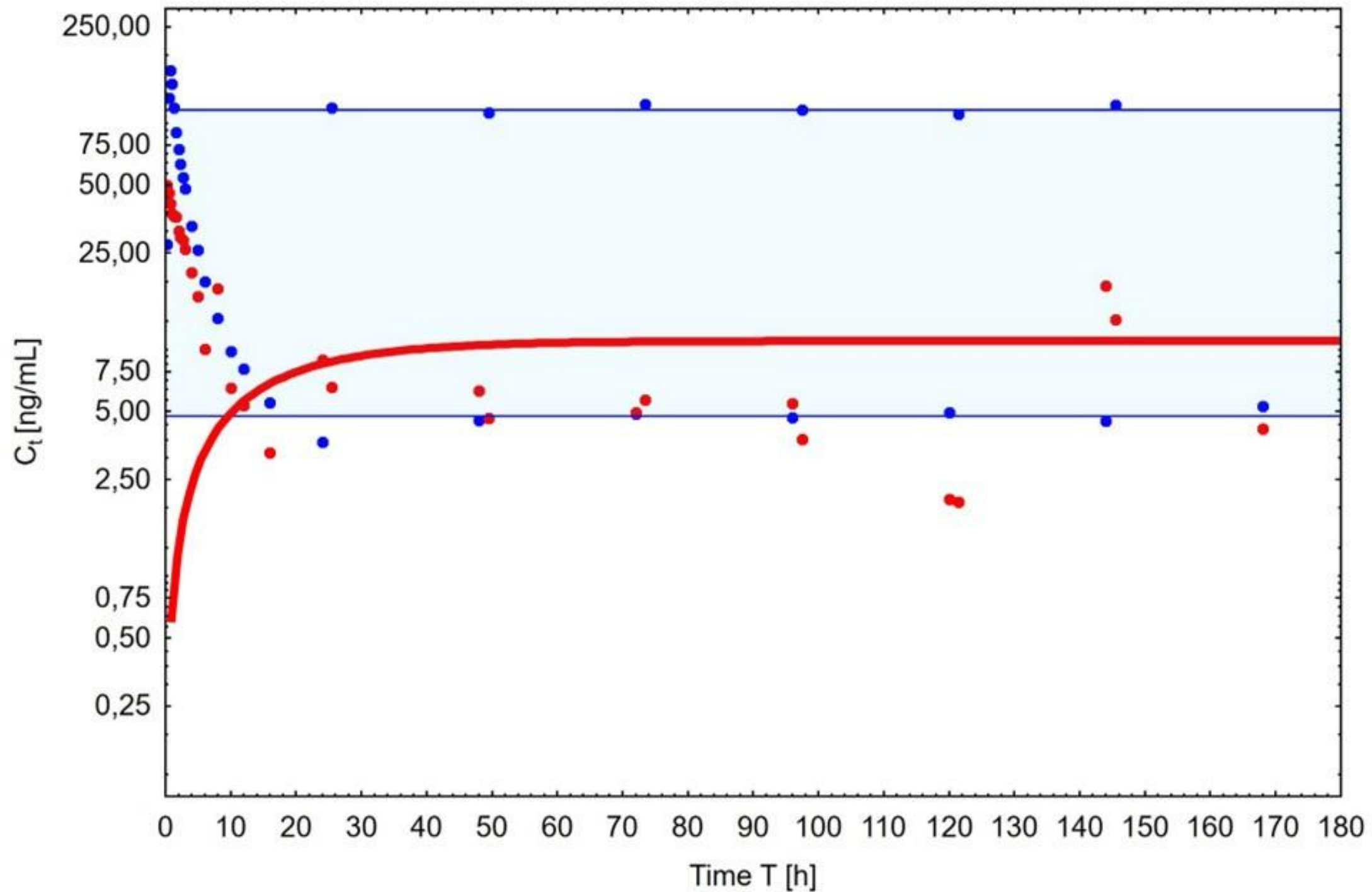
Insulin Plasma Concentration



Key takeaway

Preliminary studies confirmed the effective transfer of insulin through the skin at a therapeutic dose

Comparison of oral and transdermal blood plasma concentration



—●— dapagliflozin tablet - C_t [ng/mL]
—●— dapagliflozin transdermal system (TDS - MTC-D1) - C_t [ng/mL]

Key takeaways

The effectiveness of the MTC-Y carrier was confirmed in a clinical trial.

The study confirmed both the safety of Biotts transdermal technology and its therapeutic effectiveness.



Profit share or Licensing

Biotts to develop your
transdermal product
for your patients



Revenues and Profits

Direct revenues and
profits from Biotts
transdermal products



Contract Research

Proof of Concept
studies, prototype
development

THANK YOU



www.biotts.com

info@biotts.com

p.biernat@biotts.com