BIOTTS

WE HAVE THE RIGHT FORMULA

We develop pharmaceutical technology and drug formulas in the field of oncology, dermatology and autoimmune diseases.

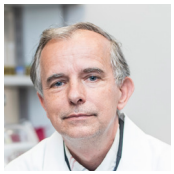
LEADERS

PAWEŁ BIERNAT PHD

CEO & Transdermal Systems Specialist

Co-founder and co-author of BIOTTS® patents and therapeutic systems. Graduate, lecturer and assistant professor of the Wrocław Medical University. 17 years of experience in chairing the Department of Drug Forms Technology.

Drug Forms Technologist, an expert in the field of designing, nanocarriers for active substances, transdermal drug delivery systems and sterile, parenteral drug forms.



JAN MELER PHD

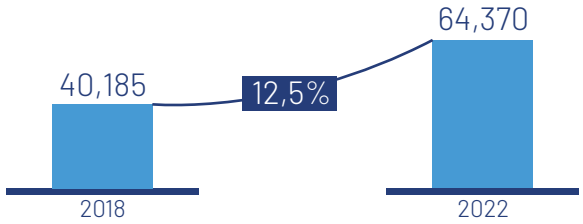
Director of the Drug Development Department

Co-founder and co-author of patents and the BIOTTS® therapy system. Well renowned Drug Forms Technologist, associated with the Medical University of Wrocław for over 35 years.

Specialist and technologist of liquid and solid drug forms.

MARKET TDDS

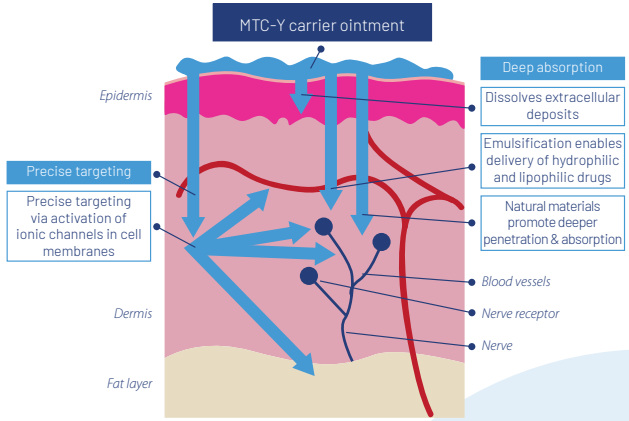
The Global transdermal drug delivery system (TDDS) market, is predicted to grow 12,5% annually.



MTC-Y TECHNOLOGY

PATENTED GLOBAL REVULSION

A unique patented transdermal drug delivery system, representing a revolution inthe TDDS market and beyond. MTC-Y is a universal carrier for active substances, able transport hydrophilic substances, big molecules and proteins through the skin.



PROPERTIES OF MTC-Y TECHNOLOGY

- Design of multi-component drugs
- Therapeutic dose reduction
- Up to 10 times more bioavailability
- Penetration through skin barriers to soft tissues and bones
- Modified API release profiles
- Simple and quick modification of formulas
- Reduction of side effects up to 5 times
- Simple implementation

PATENTED DRUG CANDIDATES

MTC-A4

An original local anaesthetic drug with an increased bioavailability and permeability through skin folds modified release profile.

MTC-B7

An original drug to treat breast cancer modified release profile.

MTC-U1

An original drug to treat pressure sores, hard-to-heal wounds and diabetic foot.

MTC-D1

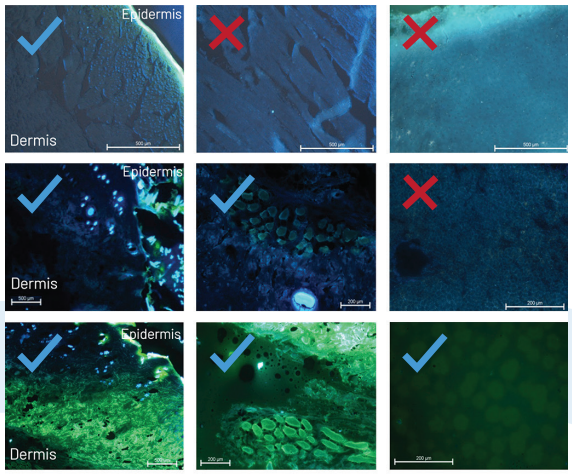
Transdermal antidiabetic drug for type 2 diabetes.

WE CAN IMPLEMENT OUR TECHNOLOGY'S IN

- Pharmaceutical companies
- Manufacturers of medicines
- Manufacturers of veterinary medicines
- Cosmetics manufacturers

FULL CONTROL

The pictures present the results of studies on the animal model of permeability of MTC-Y carrier combined with fluorescein. Depending on the simple quantitative modification of the carrier substances, we can control the depth of absorption from the skin surface, through tissues and muscles to the bloodstream and liver.

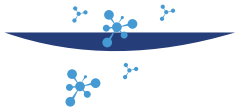


BIOTTS TECHNOLOGY TRANSPORT OF ANY API

With the use of MTC-Y technology, it is possible to carry APIs with different physicochemical properties.

- Lipophilic substances
- Hydrophilic substances

We transport particles of different sizes through the skin.



From 200 Da up to 25,000 Da (Dalton)

BUSINESS PARTNERSHIP PROPOSAL

Proof of Concept (PoC) with your API

1. Biotts technology adaptation to your API: up to 4 mths
2. Basic research and in vitro studies: up to 4 mths
3. Animal studies: 4 - 7 mths

READY TECHNOLOGIES

Business proposal:

1. Area license
2. Exclusive license
3. IP and technology transfer

DRUG CANDIDATES

Business proposal:

1. IP and formulation transfer at the preclinical stage
2. Drug development together with a business partner

www.biotts.com Konrad Krajewski Vice President k.krajewski@biotts.com

WE TRANSPORT DRUGS FOR THE TREATMENT OF TYPE II DIABETES

REGISTRATION CAN BE CARRIED OUT IN THE "FAST TRACK" MODE (FDA: 505(B)(2); EMA: ARTICLE 10 DIRECTIVES 2001/83/WE). IT ALLOWS TO REDUCE RESEARCH TIME TO 2-5 YEARS AND COSTS TO USD 10 M

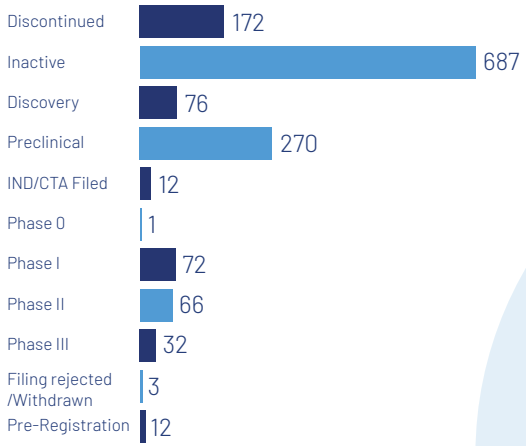
The technology developed by Biotts makes it possible to create new, more effective drug formulas based on the existing active substances in a faster and cheaper way at a reasonable cost. What is more, the risk of registering a new drug based on the Biotts technology is negligible, because both the carrier and active substances are already known, registered and come with extensive documentation of basic and clinical research.

Currently, the prevalence of diabetes exceeds 5% and is constantly increasing. It forecast that by 2030 there will be over 360 million people with diabetes in the world. The morbidity increases in all age groups, especially in middle-aged people (45-64 years), which is very well illustrated by the situation in developing countries.

DIABETES TYPE 2

The disease sickness rate in Poland ranges from 1.6 to 4.7%, on average in Europe and the US a little over 6%. The morbidity rate (for 100,000 people per year) in Poland is estimated at 200, while in developed countries it is even 460. The age of onset is generally > 30 years of age.

NUMBER OF CANDIDATES IN PARTICULAR STAGES OF DEVELOPMENT



KEY BENEFITS FOR TYPE 2 DIABETES DRUG ADMINISTRATION USING MTC-Y

UE GRANT

3 million Euro – this is the amount of funding we have received from National Centre for Research and Development (NCBR) to develop antidiabetic therapies and transport through the skin antidiabetic drugs and protins. The project is to end with the first phase of clinical trials for the selected antidiabetic API.

CHANGE OF FORM OF APPLICATION

Changing the form from oral to transdermal administration, allows to skip the intestinal absorption from the gastrointestinal tract and to eliminate side effects from this system, additionally we bypass the first pass effect, thanks to which we can reduce the concentration of the administered drug.

INCREASED BIOAVAILABILITY API

The transdermal form saves the manufacturer the cost of API use, especially for substances sensitive to external factors and digestive acids. The administration of the drug in the transdermal form is similar to that of an intravenous infusion, therefore, compared to the oral administration, the amount of the active substance may be even 10 times reduced, which translates significantly into the production cost of the active substance.

PATIENT BENEFITS OF TRANS DERMAL PATCH

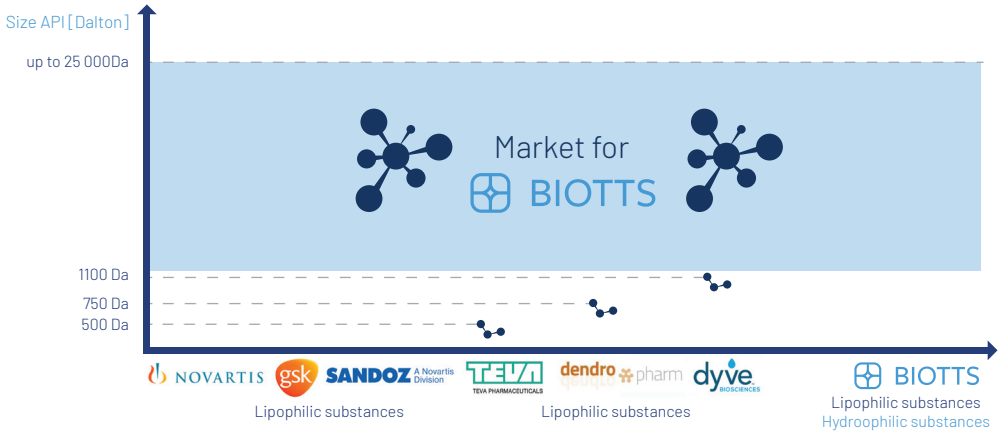
Modification of the method of application of drugs administered orally or by injection into a transdermal form. The administration of drugs in a transdermal form significantly improves the well-being of the patient, enhances compliance and reduces side effects. The administration of drugs using the transdermal system, with MTC-Y carrier, allows to obtain a long-term constant effect of the drug, with the kinetics of release of the active substance similar to the zero order kinetics.

INTELLECTUAL PROPERTY PROTECTION

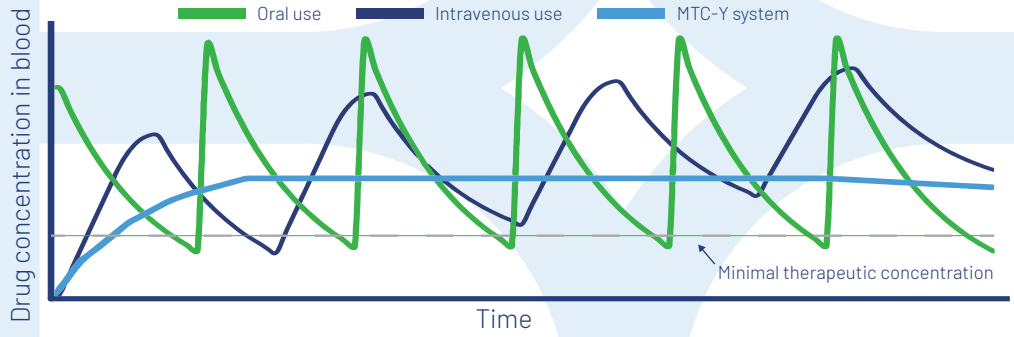
Thanks to its unique technologies, Biotts is able to quickly and easily implement proprietary technologies for various therapeutic areas without the necessity to modify production lines.

The combination of Biotts technology with the existing solutions, formulas or active substances on the market creates a unique and unusual quality, which will be protected by a dedicated patent cloud securing the products of our partners.

REVOLUTION IN TDDS: MOLECULE AND PROTEIN SIZES OF UP TO 25KDA



STABLE DRUG CONCENTRATION OVER TIME



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