Transdermal Therapeutic Systems (TTS)

SocraTec R&D - a company profile

SocraTec R&D was founded in 1998 and since then was always involved in a huge number of biopharmaceutical development programs. The highly professional clinical pharmacology unit in Erfurt is fully dedicated to Early Phase clinical trials in healthy subjects and patients. These studies are run mono-centric in Erfurt supported by the maximum care hospital we are located in.

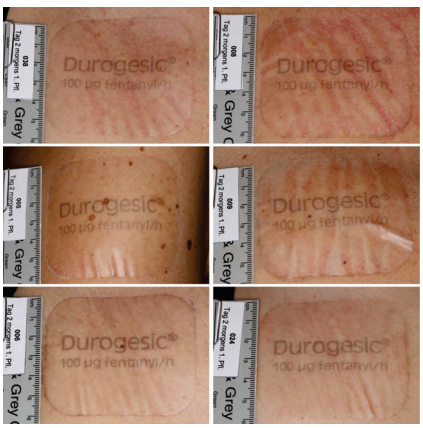
Whenever needed we include specialised early-phase partner CROs over Germany as well as Europe-wide. Over the last decades we have expanded our activities to later stages of clinical development including mono- and multi-national late phase trials.

Together with our biometrical partner CRO SocraMetrics the SocraGroup operates from three locations in Germany: the Frankfurt/Main area, Berlin and Erfurt, the capital of Thuringia.

Our practical experience with Transdermal Therapeutic Systems

SocraTec R&D has been involved in the development of several transdermal therapeutic systems since 2002 including generic development programs as well as new drug products / hybrid applications.

Our clinical team has successfully performed numerous bioavailability and bioequivalence trials with TTSs with numerous compounds – locally as well as systemically acting – including opioids. Therefore, our experience background is very strong concerning highly standardised characterisation of adhesion properties and skin irritation / sensitization.



Patch Adhesion

Transdermal Therapeutic Systems (TTS)

We have developed standardised assessment procedures for patch adhesion suitable for all patch types with very good reproducibility using customised metric recording templates adapted to the individual patch size and form. Furthermore, we have established a symptom-based assessment procedure for skin irritation and sensitisation which tracks the individual symptom in the source resulting in the derived score – either for EMA or for US standard score. Therefore, established and reliably standardized procedures for adhesion assessments as well as irritation / sensitisation following European as well as US-American requirements are in place.

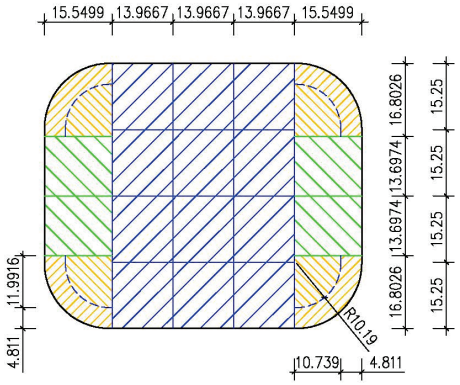
Each assessment – patch adhesion or skin irritation / sensitisation – is documented photographically by a standardised procedure. To cut a long story short - our team is very experienced and your patch project is in the best hands with us.

Our regulatory background

Due to our close contacts with the authorities worldwide and our many years of experience with transdermal therapeutic systems, we have been involved in the scientific discussion and development of new guidelines in this specialised field for many years.

We contributed to the development of standards with a series of national and international workshops and conferences via AGAH, EUFEPS and the Global Bioequivalence Harmonisation Initiative GBHI from 2010 onwards reflected in currently valid guidelines.

We support our customers in the preparation of development plans and in scientific advice meetings with European authorities and the FDA for example when modifications in the posology are intended. Our patch development projects allow international authorisations in the EU, USA and also Australia and Brazil.



Customised metric recording template

Our Clinical Pharmacology Unit (CPU)

Optimum conditions for Phase I/II clinical trials

Our CPU in the heart of Erfurt, the capital of Thuringia, was set up in this location in 2004. Since then we have continuously invested in maintenance and technical equipment, meeting our clients' needs and following our own visions.

The general set-up of the site is based on a modular system with highly flexible possibilities of adaptation to the respective phase-I or phase-II study design:

- The 1600 sqm unit is equipped with 54 beds, including 6 intensive monitoring beds for FIH-trials with an increased demand for safety measures and continuous surveillance
- A Tetronic (former Siemens) central surveillance system, on the basis of Vaisala measuring devices is our internal standard; software is validated following the requirements of US CFR 21 Part 11
- Freezers, refrigerators and the IMP storage area, including safes for the storage of restricted drugs, are under continuous surveillance with audit-trail-based tracking and an emergency system for immediate intervention
- Standardised conditions in pharmacokinetic trials are ensured by temperature- controlled surrounding (AC) and modern kitchen facilities with trained staff
- Special equipment e.g. for gynaecological, ophthalmological and oncological trials supports our early phase portfolio in both - healthy subjects and patients

Study Volunteer Recruitment Potential

Excellent access to healthy volunteers and symptomatic patients

Our subject database contains more than 3,000 volunteers, including healthy subjects of both genders. The database is continuously maintained to ensure that the subjects are still active and available. We regularly organise public campaigns in social- as well as print-media and at universities to recruit new volunteers. Furthermore, we have good access to a large number of postmenopausal women and elderly subjects.

SocraTec R&D enjoys an excellent reputation in Erfurt and the surroundings, so that the feedback on recruitment campaigns allows even larger trials in healthy subjects as well as symptomatic patients to be realised. Together with our established network of phase-I CROs in Germany we realise large PK biosimilar studies. Acting as lead CRO we just successfully finished a biosimilar project with 490 subjects randomised within roughly 4 months.

Symptomatic patients are recruited via established referral systems for various indications all over Thuringia as well as through Helios Klinikum Erfurt.

- Centrally located with excellent public transportation for trial participants
- Located in close vicinity to a full-service hospital
- Large geographical catchment area for healthy subjects of all ages
- Excellent patient access with a very low level of competitive trials
- Large subject's database of healthy subjects
- Established referral network for symptomatic patients
- Additional intensive monitoring CPU in cooperation with high performance maximum care hospital

SocraTec R&D

Clinical Data Management and Medical Writing

Clinical Data Management and Biometrics

SocraMetrics

For our national and international single- and multi- centre trials our Data Management Group at SocraMetrics is your professional partner with a highly motivated team with excellent academic background and a modern IT concept in line with requirements of CRF 21 Part 11. CDISC, STDM and ADaM are fully established.

The very experienced software developers are responsible for the security of the IT system and tailored software programming. An excellent team of SAS programmers is responsible for statistical evaluation.

The Data Management group is experienced in early phase trials - keeping tight timelines during SAD / MAD trials is mandatory for us. Supported by well-designed eCRFs and pre-programmed evaluation strategies the schedules for interim evaluations (clinical data as well as PK) are reliably kept.

Medical Writing Services

Excellent Medical Writing is essential for the presentation of clinical data as well as the communication of research results to different target audiences. This makes Medical Writing an important part of clinical research and this is why we take it seriously.

Our Medical Writers are highly qualified scientists (PhD or approbated pharmacists) and regularly extend their knowledge via training at conferences held by the European Medical Writers Association (EMWA) and the EMWA Professional Development Programme. They have excellent writing and communication skills and are experienced in preparing documents for any therapeutic indication. Our experience includes but is not limited to:

- ICH-GCP-compliant Clinical Study Reports (CSRs); Phases I to IV and noninterventional studies, including CSR Synopses for public disclosure
- Study Protocols and statistical planning documents (SAP, DMP)
- Investigator's Brochures (IBs) and Patient Safety Narratives
- Patient information including Informed Consent and Patient Brochures
- Standard Operating Procedures (SOPs) covering all aspects of drug development including the design, conduct and reporting of clinical trials and the outsourcing of Sponsor responsibilities to a Clinical Research Organisation (CRO)
- Scientific Advice documents
- IMPD including quality dossiers

Bioequivalence/Bioavailability - Pharmacokinetics

From First-In-Human to Bioequivalence

SocraTec R&D performs classical non-compartmental (NCA) pharmacokinetic (PK) analyses for pilot studies and pivotal trials used for approval in the EU and worldwide including US-FDA. From first-in-man to bioequivalence trials – our experience covers all relevant settings over decades of practical experience:

- Design development and sample size estimations
- Study performance in phase-I settings as well as later phases
- Statistical Analysis Plan development, evaluation and interpreation of study results
- "Probability of success" estimation based on in-vitro investigations
- Highly variable drugs

Evaluations are run by a team of experienced PK analysts, all of them with a university background. All evaluation steps are SOP-based and embedded in a comprehensive quality assurance system with internal quality control procedures for all potentially vulnerable steps, based on a systematic risk analysis. Scientifically critical steps affected by subjective components, e.g., the selection of data points for determining the terminal elimination rate are always done under the Scientific Director's supervision.

Our NCA evaluation is based on Phoenix WinNonlin and established in a validated IT environment. Statistical analyses of PK parameters are either done in WinNonlin or SAS depending on the sponsor's requirements.

What We Stand For

Practical experience that matters

SocraTec R&D represents decades of experience in early phase trials. PK, BA/BE, DDI, PoC trials and all other special fields of early drug development are filled with practical experience.

Our Claims

Following the principle "Success through Competence" we work out intelligent but pragmatic solutions to problems. With expertise and experience we provide professional and problem-orientated support for the developmental needs of our customers.

Our Principles

Clearly identifiable expertise, committed approach, customer-specific services and professionalism at the highest level are the key factors of our corporate philosophy. When it comes to competence and quality, we are not willing to make any compromises.

Our Visions

- To improve efficiency in pharmaceutical development and clinical research by bringing together excellent biopharmaceutical and medical expertise
- To work successfully and professionally as integral part of the sponsors' project team
- To advance drug therapy by adapting the biopharmaceutical properties of a formulation to the physiological conditions and clinical needs

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