



# Fast-into-man™ - an RCC Perspective -

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- **Considerations before starting development**
- **Reasons for outsourcing a fast track development**
- **Fast-into-man: Philosophy and program design**
- **Summary**

## Decision on a strategy

- **What preliminary information is already available?**
- **Outsource or in-house?**
- **Optimal program design**
- **Data and results requested by institutional review boards and regulatory authorities for approval of Phase I study plan**

## Active ingredient

- **New product class or well known class**
- **Which animal species should be used**
- **Final formulation known / available**
- **Purity, Stability of active ingredient / formulations known**
- **Dose and route of administration already selected or should be investigated**

## Active ingredient

- **Synthesis / production and availability of the compound must be on an acceptable quality level (GMP quality for main studies)**
- **Validated analytical methods for the active ingredient as formulation and in biological matrices (plasma)**

## Program design

- **Conventional development strategies are not necessarily appropriate for biological or biotechnological derived molecules**
- **Case by case**

- **Access to top level resources for the preclinical development program – recommended for start-up or biotech companies**
- **Professional and long lasting expertise available**
- **Saves time and money**
- **Internal resources can be reallocated**

- **A fast track preclinical drug development programme offered by RCC (Switzerland)**
- **Each fast-into-man™ programme is tailored to meet the specific requirements of the client and the active ingredient**
- **Each programme meets the general requirements of the regulatory authorities for Phase I studies**
- **The programme can be adjusted considering special requests of FDA or EMEA**

## This approach is not revolutionary

- **Extension and management of “routine” services focused on a short deadline**
- **Key element is the smooth and effective communication and cooperation inside RCC and between RCC and the client**

## Gives added value to Client

- **Data in humans can be earlier generated – important for milestones / financing**
- **Most appropriate design for Phase II studies can be selected**

## Philosophy

- **Project team with expertise from all involved departments**
- **Project Leader is allocated for every program to manage the activities and to stay in continuous contact with the client**
- **Rapid and effective communication of study directors with the Project Leaders facilitates:**
  - **Checking of study plans and comments**
  - **Coordination of study plan designs and conduct of studies**
  - **Inclusion of Sponsor requests, managing of necessary actual changes**

## Advantages

- **Fast-into-man reduces the time taken for the important first steps of preclinical development for a new drug**
- **It does not lead to a reduction in QUALITY nor does it compromise SAFETY**
- **The program includes the writing of the Investigational Medicinal Product Dossier (IMPD) necessary for authority approval of Phase I study**

## Necessary studies

- **To identify potential target organs for toxic effects**
- **To assess reversibility of effects**
- **To identify potential side effects on vital organ systems**
- **Identify an initial safe dose for dosing first time in humans**
- **All activities must comply with the relevant guidelines**
  - ICH-M3(M) for new chemical entities
  - ICH-S6 for biotechnological products

## **Analytical Work**

- ✓ Availability of a suitable method for determination of the active ingredient in dose formulations and in biological matrices**
- ✓ Validation of these methods according to the regulatory requirements**
- ✓ If methods are available from the client – implementation and validation of these methods**
- ✓ Stability tests of active ingredient in formulations and biological matrices**
- ✓ All activities must comply with the relevant guidelines**

## **Single and repeated dose toxicity studies**

- Acute toxicity in two species**
- Maximal tolerated dose and / or dose range finding studies to ensure the selection of an appropriate dose regimen**
- Repeated dose toxicity studies in two species – minimum duration is 14 days**

## Single and repeated dose toxicity studies

- **These studies determine the possible duration of treatment in the clinical phase I and phase II**
- **Toxicokinetic evaluation of exposure is mandatory**
- **Immunotoxicological investigations are strictly required in one species during the repeated dose studies**

## Safety pharmacology studies

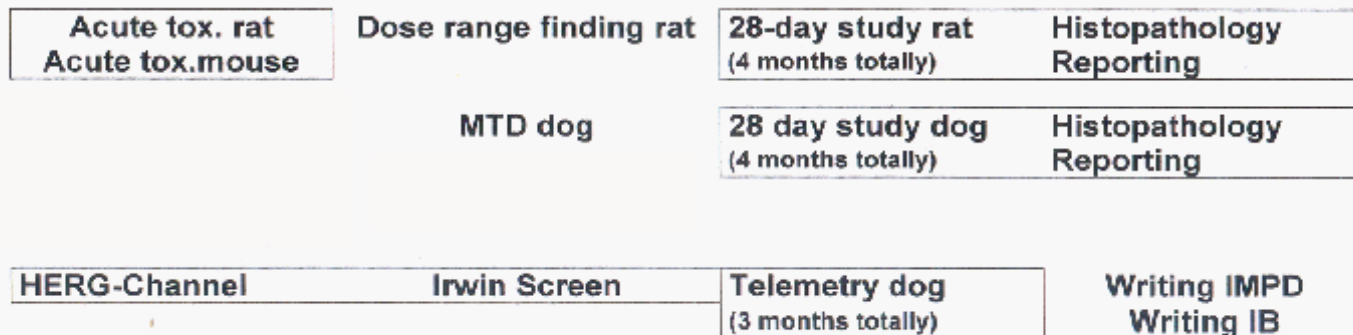
- **Core test battery required according to the ICH-guidelines S7A and S7B for detection of effects on the central nervous system, the cardiovascular system and the respiratory system**
- **Irwin Screen in the rat (central nervous system)**
- **HERG-channel test in vitro in transfected cells (electro-physiological basis of QT-prolongation)**
- **Telemetry in the dog / monkey – QT-prolongation and respiratory parameters**

## Sequence of studies (example)

### Studies

Analytical chemistry

Bioanalytics



## Summary

- **A fast track drug development programme**
- **Designed to meet regulatory requirements**
- **Allow flexibility in design of the study programme**
- **Pre-clinical program sufficient for clinical phase I can be performed within 6 - 9 months**
- **Rapid and smooth transfer to clinical Phase I possible**
- **Strategic milestone during the drug development can be quickly achieved**

**Thank you!**

**Thank you for your attention!**

**Grazie per la vostra cortese attenzione!**

**Merci de votre aimable attention!**

**Vielen Dank für Ihre Aufmerksamkeit!**

