

SPECIES COMPARISON OF METABOLISM IN MICROSOMES AND HEPATOCYTES

NIELS KREBSFAENGER

Schwarz Biosciences, Monheim, Germany

Contents

- 1 Introduction and General Aspects
 - 1.1 Relevance of Liver Preparations for Metabolism Studies *in Vitro*
 - 1.2 Liver Microsomes Versus Hepatocytes
 - 1.3 Toxicity Testing in Primary Hepatocyte Metabolism Studies
 - 1.4 Species Characteristics and Differences in Metabolism
 - 1.5 Regulatory and Strategic Aspects
 - 2 Materials, Methods, and Technical Aspects
 - 2.1 Preparation and Characterization of Liver Microsomes and Hepatocytes
 - 2.2 Experimental Study Design
 - 2.3 Commercial Suppliers and CROs
 - 3 Conclusion
- References

1 INTRODUCTION AND GENERAL ASPECTS

Species differences in metabolism may have significant impact on pharmacokinetics and toxicity of drugs. Therefore detailed knowledge of comparative metabolism across species is key for species selection in preclinical safety testing and interpretation of any animal data in respect to relevance for humans.

From the safety perspective, the primary concern is to identify any unique or major human metabolites. Early identification will allow for timely assessment of