## National and International Cooperation – Cooperation with the Freie Universität Berlin

Monika Schäfer-Korting Freie Universität Berlin, Institut für Pharmazie, Pharmakologie und Toxikologie

Since 1994 scientist from the FU Berlin cooperate with scientists from the ZEBET with respect to the use, establishment, and validation of alternative testing strategies. Funded by the German Ministry of Education and Research (BMBF) a joint research group has established and validated a protocol for percutaneous absorption testing making use of commercially available reconstructed human epidermis. Currently the biotransformation of xenobiotics by primary skin cells and reconstructed human skin as well as the associated risks are under evaluation. Scientists from the German industry and academia are partners of both projects, too. The irritant potential for eye and skin of our new investigational drug agents and innovative carrier systems is regularly estimated by HET-CAM test and the EpiSkin test which have been introduced into our lab by scientific support of the ZEBET.

Moreover, the development of a reconstructed cornea (in cooperation with the Animal Welfare Academy, Neubiberg, Germany) and an in-vitro model of angiogenesis by the Departments of Veterinary Anatomy (Berlin and München) have become possible only by funding by the European Commission (EFRE) and the ZEBET.

To increase the awareness of animal welfare in research and the impact of in vitro testing, certified training courses for PhD students and postdocs (laboratory animals, animal experimentation, alternative testing strategies) have been set-up in the 1990s by the ZEBET and the Berlin universities. More recently a training lab (INVITROTRAIN, EFRE funding) has been established at the FU Berlin (Pharmacy) which introduces scientists from all over the world to the use of in vitro test protocols. Major contribution of scientists from the ZEBET greatly improves the impact of the courses.

The cooperation with scientists from the ZEBET for more than a decade as well as funding by seed money by the ZEBET and funding by BMBF and EFRE is gratefully acknowledged. The progress made since 1989 should allow for a further reduction in animal testing in the next decade. A high demand is due to the increasing awareness for toxicological risks of e.g. chemicals, drugs, food additives and consumer products. Besides this, in vitro disease models based on gene transfer and gene knock down in human cells have to be set up which asks not only for fundamental research but also for an extension of the fruitful cooperations.