

# *Safety Pharmacology*

Safety pharmacology is the evaluation and study of the potentially life threatening pharmacological effects of a potential drug which is unrelated to the desired therapeutic effect and therefore may present a hazard—particularly in individuals who already have one or more compromised or limited organ system functions. Unlike other nonclinical evaluations of the safety of a drug, these evaluations are usually conducted at doses not too much in excess of the intended clinical dose. This topic is another which has had to undergo significant change since the last edition because of a changed regulatory environment.

General/safety pharmacology was an emerging discipline within the pharmaceutical industry in 2002, when the International Conference on Harmonisation (ICH) guidance was promulgated and it became a major area of both concern and activity. It seeks to identify unanticipated effects of new drug candidates on major organ function (i.e., secondary pharmacological effects) and ensure that they are critically assessed in a variety of animal models. A survey was conducted to obtain customer input on the role and strategies of this emerging discipline. Overlooked in importance by all but a few (Zbinden, 1966, 1984) for many years, the Japanese clearly became the leaders in developing and requiring such information, while the United States was in a position behind Japan and the European Union (EU) in both having formal requirements and implementing industrial programs. While major companies were aware and largely addressing the need by the mid-1990s (Kintner et al.,