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Editorial

This themed issue of the Journal of Pharmacological and Toxicological Methods presents the work and conclusions of the *RETHINK* project. *RETHINK* is an EU FP6 Specific Support Action (SSA) project with the objective to report on the impact of toxicity testing in the minipig as an alternative approach in regulatory toxicity testing that can contribute to the replacement, refinement and reduction of animal testing (3Rs).

In an introductory article, the project, its objectives and organization are described by the Steering Committee. The first Working Group article reports on ethical considerations in the use of minipigs in toxicity testing. The following article deals with the state of knowledge of minipig welfare, and in particular welfare in the context of regulatory safety studies. The third article deals with the general acceptability of minipigs by regulatory authorities for different product sectors. This is followed by an article reviewing the value of the minipig as an animal subject for toxicity testing. The next article examines the applicability of genomics and other emerging technologies to the minipig. Since the only minipig that is currently commercially available in Europe is the Gottingen minipig, this was the reference minipig strain for the *RETHINK* project. A contributed article presents the history and genetic management principles applied to the Gottingen minipig. The final article presents the principal conclusions to emerge from this project, together with recommendations for future research and/or actions that would help to better define the potential contribution of the minipig to toxicity testing.

Taken as a whole, the following general considerations emerge from these articles. The minipig is an important model for drug discovery, safety pharmacology investigation and drug safety studies in general; it is bred to high quality standards, is well understood, its readouts are reproducible, and it is readily available. Sufficient

information is available to reassure the community that the welfare needs of minipigs are adequately understood (and that areas for future progress are identified). The minipig is readily accepted by regulatory authorities, for investigations concerning a range of different product types. The minipig has characteristics that make it a species that lends itself well to safety study design. Moreover, the minipig appears to be well placed to benefit from emerging technologies that may play a greater role in toxicity testing.

These conclusions represent an invitation to reflect and consider further. Are we making the best use and most appropriate deployment of this model? Could the minipig be more relevant and pertinent than more commonly used species such as the rat or dog? Could there be a role for the minipig in replacing the non-human primate in some applications? Could the minipig, with many points of close similarity to man, provide us with closer prediction of human toxicities than current testing paradigms? Hopefully the articles presented in this special issue will stimulate our readers to think on these questions.

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