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The minipig in embryofetal toxicity studies

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Traditionally, rats and rabbits are the species of choice for embryofetal toxicity studies. Where one or both of these species is unsuitable the choice of an alternative can be difficult. One alternative is the minipig, and the use of this species as a non-rodent in embryofetal toxicity testing is increasing. At LAB Scantox, our database comprises data on variations and malformations from 57 Göttingen SPF minipig dams from 5 different studies and in all 308 fetuses. The fetuses were collected by caesarean section on Gestation Day (GD) 109 and 111. Fetal evaluation was by external, visceral and skeletal examination. External and visceral examinations were performed at necropsy. The head from half of the fetuses was fixed in Bouin's, sectioned and examined for abnormalities. All fetuses were alizarin stained and skeletal examination was performed. These studies resulted in data on bodyweight gain, abortion rate, pregnancy rate, number of fetuses, sex, number of early and late resorptions, number of implantation sites, total number of corpora lutea, number of dead or abnormal fetuses, uterine weight, pre- and postimplantation loss, fetal weight, placenta weight, snout-rump length, external and skeletal abnormalities. This database makes it feasible to judge possible teratogenic effects caused by a test article from background incidences of variations and malformations. Through these studies the minipig has shown to be a highly valuable alternative non-rodent species for use in developmental toxicity studies.