

**New optimization of experimental mini pigs on feasibility for the developments of drugs,
medical devices and products for regenerative medicine**

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Pre-clinical experiments through the usage of experimental animals have greatly contributed to the developments of safe medical drugs. In these years, despite the fact that drug developments have been clearly focused on molecular target, more than half of the drugs have been disqualified for the efficacy toward human at Phase II and III even though their safety has been secured at pre-clinical experiments. The fact apparently shows the necessity of developing animal models which will be more focused on the efficacy even at pre-clinical stages.

In overseas countries, experimental mini pigs have been used for the development of medical devices thanks to its physical body size. Also it has become indispensable to use experimental mini pigs to verify the efficacy for cell and tissue transplantation in the field of recent regenerative medicine. The disease models are required for the experiments of feasibility such as spontaneity, gene-modified and operation models. However, from cost benefit point of view, the former two models have disadvantages. Therefore, operation model is recommended because of the versatility; healthy-grown models are modified to operation ones in accordance with the purposes. The lecture introduces examples of operation models and its purposes with which the author has been dealing so far.

