

Ideal humanized mouse model: A preclinical platform feasible for Immunotherapy

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Abstract

The selection of appropriate preclinical models based on similarity to human biology and disease genotype and phenotype carries considerable potential to ensure higher predictability of preclinical trials. The design and interpretation of first-in-man trials remains a major challenge in the development of novel anti-cancer agents. Key study design elements such as schedule, escalation strategy, targeted patient population, etc. rely heavily on preclinical (usually in vivo) data. It is especially difficult to model for preclinical assessment of cancer immunotherapy, the most actively developing area in oncology. To build a preclinical mouse platform to evaluate immunotherapies for human cancer, we have established a tumor and immune system double-humanized mouse model, "Ideal Immune", by implanting tumor tissue from patients into Hu-CD34 NPI mice (NPI, NOD-Prkdcem1ldmo-il2rgem2ldmo). The Ideal Immune model can mimic the interaction between the human immune system and primary tumor, which allows scientists to evaluate cancer immunotherapies together with better understanding of tumor microenvironment.

Biography

Chang Song is Director of humanized model department of Beijing IDMO Co., Ltd. and has extended experience in generations of different kinds of humanized model such as gene-humanization model, patient-derived tumor xenograft model, human immune system and liver reconstituted model etc. Using different double-humanized models, he helps to build up an immunotherapy platform for drug screening and efficacy and safety evaluation including IO antibodies, BITE, CAR-T therapy etc. the immunotherapy platform significantly improve the success rate and reduce the cost of drug development.

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