



# 基因组学与动物克隆

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“人类基因组计划”和动物克隆是生命科学史上两个重要的里程碑。

“人类基因组计划”所催生的基因组学的灵魂是生命的“序列化”和“数字化”。基于这一理念,华大基因一直致力于搭建测序和生物信息分析平台,其目标是通过广泛的国际合作,分析“所有人类个体和所有地球生命”的基因组。

自从多利羊诞生后,很多哺乳动物的克隆也陆续取得了成功。动物克隆的本质是细胞的“重编程(reprogramming)”。作为细胞水平和个体水平的桥梁,它将与基因操作、干细胞、合成生物学结合在一起,使二十一世纪真正成为“生物学的世纪”。以基因组学提供的数据和知识为理论背景,手工克隆技术为技术支撑,华大基因建立了动物克隆平台,主要研究动物疾病模型和家畜改良,致力于人类疾病机制和治疗手段研究提供强有力的工具,以及人类生活品质的改善。

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## Genomics and Animal Cloning

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Both ‘Human Genome Project (HGP)’ and animal cloning from somatic cells will be listed as two important milestones in the history of life sciences.

The success of HGP started the new era of genomics with two major perceptions that “life is in sequence” and “life is digital”. Based on this belief, BGI has been focusing on sequencing and bioinformatics, aiming at analyzing genomes of “everybody in the world” and “every( living) thing on Earth” via vast collaborations.

Since the birth of Dolly the sheep, successes have been made in cloning other mammals. With the main principle of reprogramming, somatic cell nuclear transfer (SCNT) is becoming the bond among genetic manipulation, stem cell and synthetic biology, making the 20th Century “The Century of Biology”. Based on the information obtained from genomics and improved technology of handmade cloning, BGI has established an animal cloning platform, which focuses on: 1) generating animal models for human diseases as a strong tool for studying the mechanism and developing therapy methods of human diseases; 2) livestock improvement for making life quality better.