<<遗传学概要>>

图书基本信息

书名：<<遗传学概要>>

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内容概要

本书保持了前八版的编写特色：注重基础知识，概念清晰准确，探讨解决专业问题，师生易学易教。
第九版内容拓展到基因组、生物信息、蛋白质组及相关前沿领域。
该书在亚马逊专业教材销售排行榜长期名列前茅，被许多北美、欧洲高校教学选用。

第九版内容主要包括：遗传学概况，有丝分裂和减数分裂，孟德尔遗传学，孟德尔比率，真核生物染色体图谱，细菌和噬菌体的遗传分析，性别决定和性染色体，染色体突变：染色体数量和分布，核外遗传，dna结构与分析，dna复制与重组，染色体dna的组织，重组dna技术和基因克隆，遗传密码和转录，翻译，基因突变和dna修复，原核生物基因表达，真核生物基因表达调控，模式生物的发育遗传学，癌症和细胞周期调控，基因组学，蛋白质组学，生物信息学，基因组动力学：转座子，免疫遗传学，真核病毒，基因组分析——基因功能，基因工程的应用及生物伦理剖析，数量遗传学和多因子性状，行为遗传学，群体遗传学，进化遗传学，保护遗传学。

本书适合生命科学相关专业教学选用，也可供从业人员参考使用。

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书籍目录

章节摘录

Events critical to chromosome distribution during mitosis occur dur-ing anaphase, the shortest stage of mitosis. During this phase, sister chromatids of each chromosome disjoin (separate) from each other——an event described as disjunction——and migrate to opposite ends of the cell. For complete disjunction to occur, each centromeric region must split in two. This splitting signals the initiation of anaphase. Once it occurs, each chromatid is referred to as a daughter chromosome. Movement of daughter chromosomes to the opposite poles of the cell is dependent on the centromere-spindle fiber attachment. Recent investigations reveal that chromosome migration results from the ac-tivity of a series of specific molecules called motor proteins found at several locations within the dividing cell. These proteins, described as molecular motors, use the energy generated by the hydrolysis of ATP.Their effect on the activity of microtubules serves ultimately to shorten the spindle fibers, drawing the chromosomes to opposite ends of the cell. The centromeres of each chromosome appear to lead the way during migration, with the chromosome arms trailing behind.Several models have been proposed to account for the shortening of spindle fibers. They share in common the selective removal of tubulin subunits at the ends of the spindle fibers. The removal process is ac-complished by the molecular motor proteins described above. The location of the centromere determines the shape of the chro-mosome during separation , as you saw in Figure 2-3. The steps that occur during anaphase are critical in providing each subsequent daughter cell with an identical set Of chromosomes. In human cells, there would now be 46 chromosomes at each pole, one from each orig-inal sister pair. Figure 2-7 (e) shows anaphase prior to its completion. ……

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