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## 第二节 同源多倍体

# 一、同源多倍体的特征

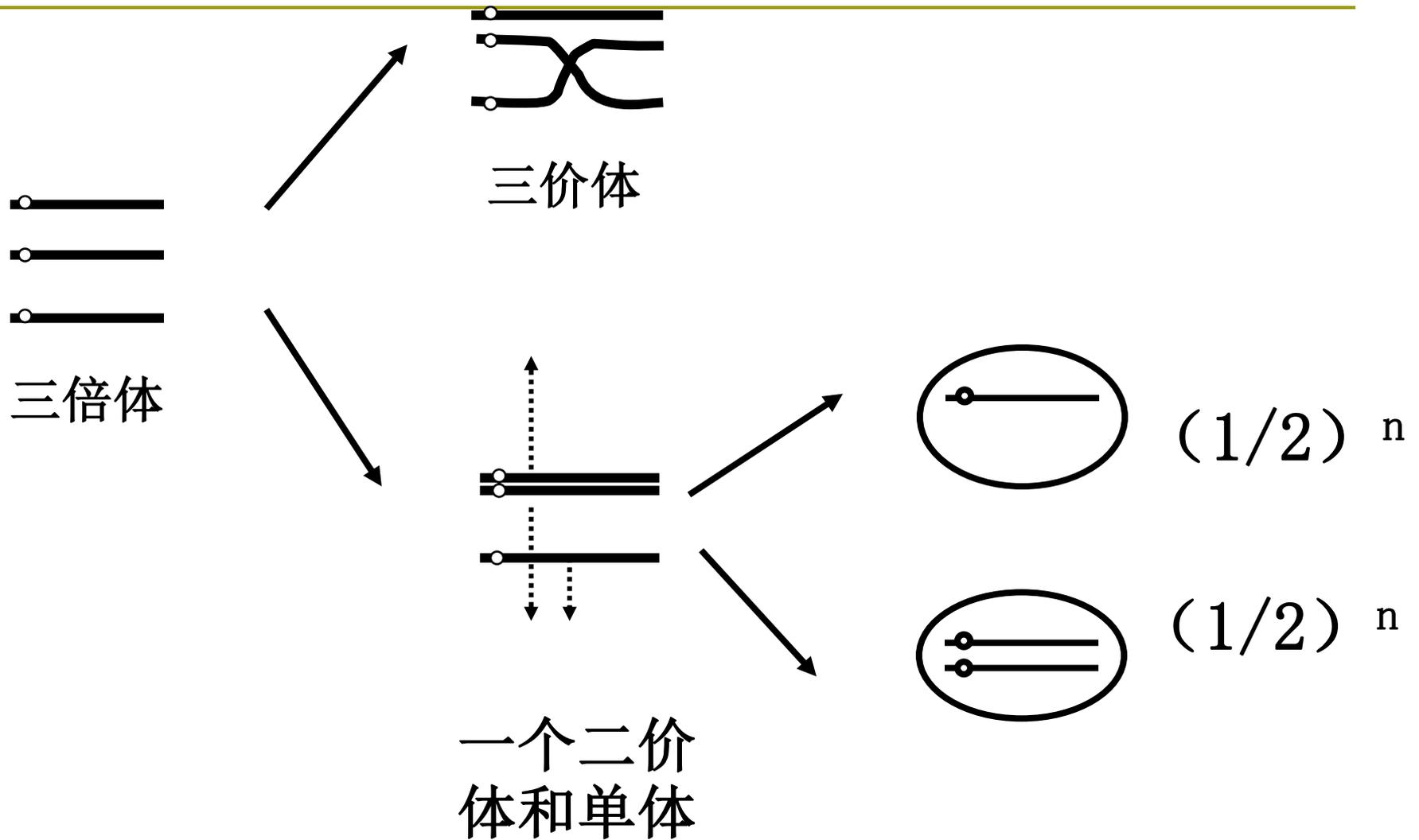
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1. 巨大性
2. 生理生化特征

## 二、同源多倍体减数分裂的染色体行为

# (一) 同源三倍体

## 1、联会与分离



## 2、同源三倍体应用

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二倍体西瓜 ( $2n=2x=22$ )

↓加倍

四倍体 ( $2n=4x=44$ ) × 二倍体

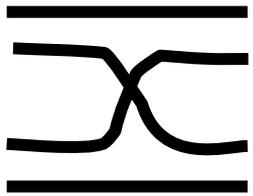
↓

三倍体 ( $3x=33=11\text{III}$ )

## (二) 同源四倍体

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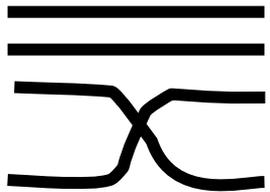
### 1、联会与分离



四价体



II + II



III + I



II + I + I

## 2、同源四倍体的基因分离

例:对一对等位基因而言四倍体应有5种基因型

**AAAA**   **AAAa**   **AAaa**   **Aaaa**   **aaaa**

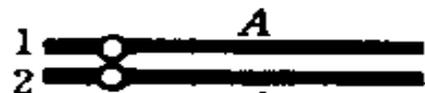
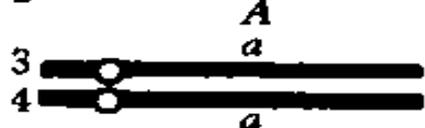
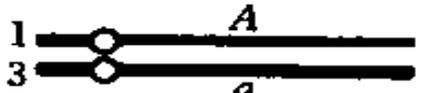
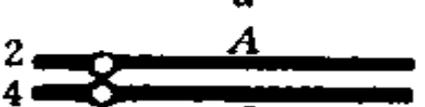
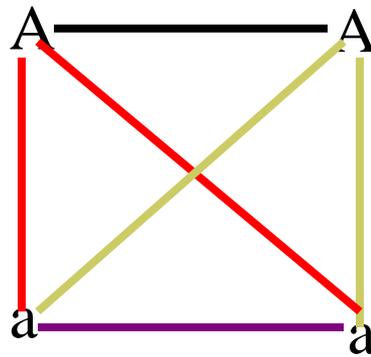
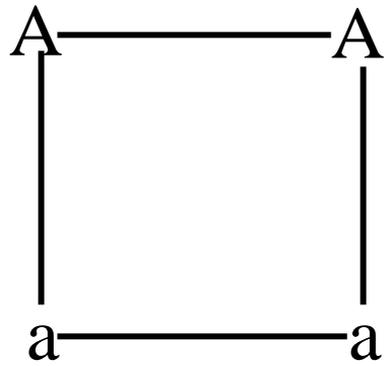
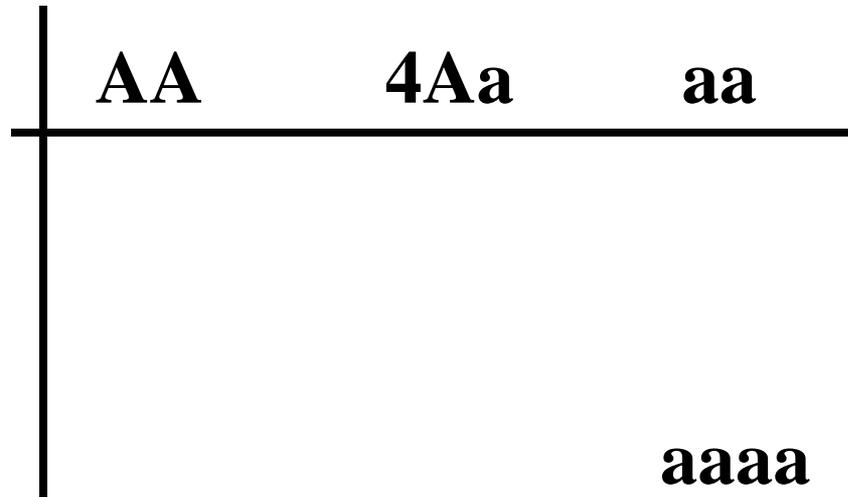
	配对	由于纺锤丝随机拉动形成的配子
1  2  3  4 	1  2  <hr/> 1  3  2  4 	$\frac{1+3}{2+4}$ <i>Aa</i> $\frac{2+4}{1+3}$ <i>Aa</i> <hr/> $\frac{1+4}{2+3}$ <i>Aa</i> $\frac{2+3}{1+4}$ <i>Aa</i> <hr/> $\frac{1+2}{3+4}$ <i>AA</i> $\frac{3+4}{1+2}$ <i>aa</i> <hr/> $\frac{1+4}{2+3}$ <i>Aa</i> $\frac{2+3}{1+4}$ <i>Aa</i> <hr/> $\frac{1+2}{3+4}$ <i>AA</i> $\frac{3+4}{1+2}$ <i>aa</i> $\frac{1+3}{2+4}$ <i>Aa</i> $\frac{2+4}{1+3}$ <i>Aa</i>

图 15-27 同源四倍体 *AAaa* 二显体的基因分离



**AA**  
**2Aa**   **2Aa**  
**aa**

**AAaa × AAaa**



**A:a=35:1**