4.5: Linkage

Mendel reported that the pairs of loci he observed behaved independently of each other; for example, the segregation of seed color alleles was independent from the segregation of alleles for seed shape. This observation was the basis for his Second Law (Independent Assortment), and contributed greatly to our understanding of heredity. However, further research showed that Mendel’s Second Law did not apply to every pair of genes that could be studied. In fact, we now know that alleles of loci that are located close together on the same chromosome tend to be inherited together. This phenomenon is called linkage, and is a major exception to Mendel’s Law of Independent Assortment. Researchers use linkage to determine the location of genes along chromosomes in a process called genetic mapping. The concept of gene linkage is important to the natural processes of heredity and evolution and current efforts to find loci that contribute to complex traits.

Contributors and Attributions

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