

**Stat 246, Lecture 2, Part A**

**An quick overview of  
human genetic linkage  
analysis**

# Purpose of human linkage analysis

To obtain a crude chromosomal location of the gene or genes associated with a phenotype of interest, e.g. a genetic disease or an important quantitative trait.

**Examples:** cystic fibrosis (found), diabetes, multiple sclerosis, and blood pressure

# Linkage Strategies

## **Traditional** (from the 1980s or earlier)

- Linkage analysis on pedigrees
- Allele-sharing methods: candidate genes, genome screen
- Association studies: candidate genes
- Animal models: identifying candidate genes

## **Newer** (from the 1990s)

- Focus on special populations (Finland, Hutterites)
- Haplotype-sharing (many variants)
- Congenic/consomic lines in mice (new for complex traits)