

# Whole Genome Sequencing (WGS)

## Overview

- Sequence entire genome (~3 billion bases in humans)
- Captures all genetic variation including non-coding regions
- Most comprehensive genomic analysis method

Coverage

**30-50X**

Clinical grade

Cost

**\$600-1000**

Per sample

Time

**1-3 days**

Sequencing + analysis

## Applications

### Clinical

- Rare disease diagnosis
- Cancer genomics
- Pharmacogenomics
- Prenatal screening

### Research

- Population genetics
- Evolution studies
- GWAS studies
- Structural variants

Detects SNVs, indels, CNVs, and structural variants genome-wide