

# Nanopore Sequencing

## Technology Principle

- DNA/RNA passes through protein nanopore
- Changes in electrical current identify bases
- Real-time sequencing - no synthesis required

### Read Length

Ultra-long reads: up to 2 Mb  
Average: 10-100 Kb

### Accuracy

Raw: ~95%  
With consensus: >99%

## Key Features

- Portable device (MinION USB sequencer)
- Real-time data analysis
- Direct RNA sequencing without reverse transcription
- Detect base modifications natively
- Rapid sequencing for outbreak response

