ANDE Accelerated Nuclear DNA Equipment

What it Analyzes. What we can Learn.

KEY POINTS

- ANDE develops profiles from 16 non-coding regions of the human genome
- Only 0.0003% of individual's DNA analyzed
- ANDE analyzes the same parts of the genome used by U.S. and international law enforcement agencies for over 20 years
- ANDE profile cannot be used to identify physical (race, ethnicity, appearance) or biomedical (disease susceptibility or genetic defects) traits
- An ANDE profile can:
  - Be matched against a database of other similar DNA profiles
  - Determine the gender of the contributor
  - Determine first generation relationships (parent to child)

GENES

- Parts of the DNA that determine what makes you 'you'
- Only comprise approximately 5% of the total DNA strand

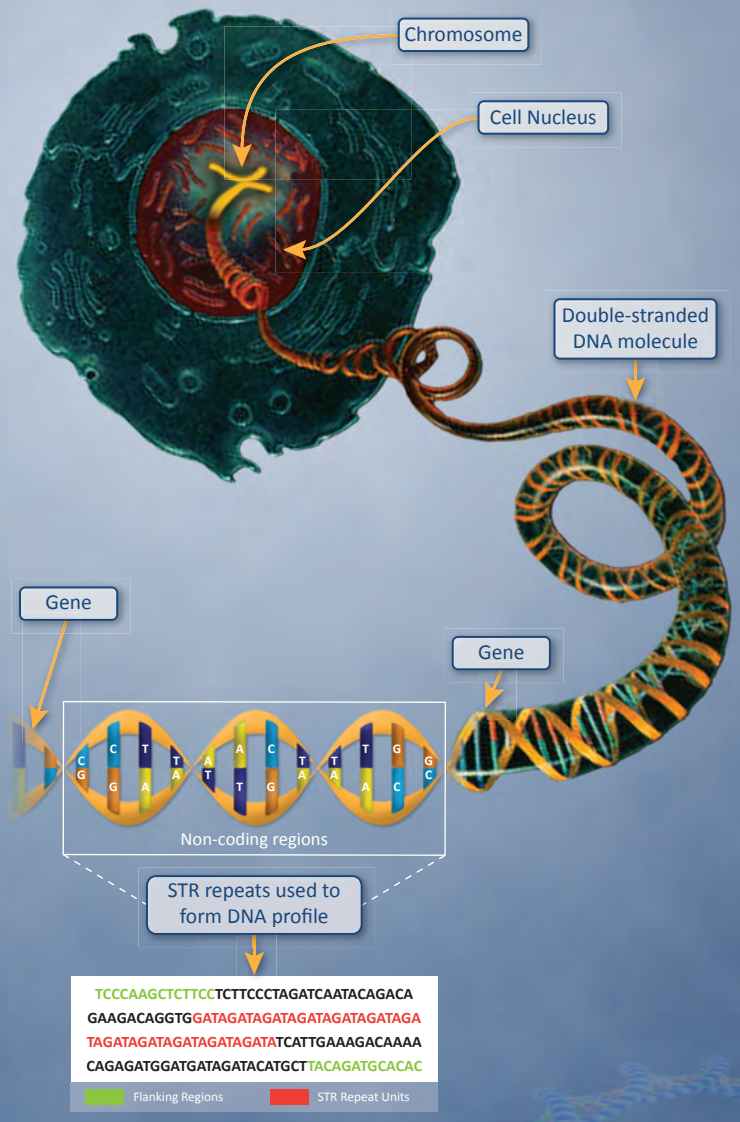
NON-CODING REGIONS

- Some regions of DNA do not encode physical or biomedical traits of the individual
- These non-coding regions are used to generate STR (Short Tandem Repeat) DNA profiles

DNA PROFILE

- STR analysis determines number of repeats of both alleles at each locus
- Pairs of repeat counts for each locus from DNA profiles, for example:

  15,18; 06,09; 11,13; 22,22; 31,32; 14,17; 17,20; 11,12; 13,16; 15,16; 12,15; 28,28; 06,08
- ANDE examines the same 13 core DNA loci used by the FBI to generate DNA profiles
- Probability of a random match for all alleles across 13 loci: ~1 in 5 trillion



SUMMARY

WHAT WE CAN LEARN

- Uniquely identifies humans
- Gender
- Parent-child relationships
- Repeat counts of alleles at common loci

WHAT WE CAN'T LEARN

- Physical traits (race, ethnicity, appearance)
- Biomedical attributes (disease susceptibility, genetic defects)
- Familial relationships beyond first generation
- Child's DNA profile based on parents'
- DNA sequence