

**Broadway Drug & DNA
Testing**

Accuracy Matters!

216.441.9599

**5937 Broadway Ave
Cleveland, Ohio 44127**



Posted: Jan 04, 2012 5:16 PM EST

Updated: Jan 09, 2012 4:18 PM EST

Just what is DNA?

DNA or Deoxyribonucleic Acid, is the name given to a very complex molecule stored in the nucleus (hence the "nucleic" part of the name) of every cell in your body. DNA is the biological blueprint of the body. Every last minute detail of your body's structure is encoded in your DNA—from your height, eye color, the sound of your voice, you name it, it's in there somewhere.

As you've probably deduced, DNA is incredibly long and incredibly complex. However, its basic structure is really quite simple—it's set up like a ladder, with two long side pieces and "rungs" composed of units called nucleotides. There are only (believe it or not) 4 types of nucleotides—Adenine, Thymine, Cytosine, and Guanine. These are usually abbreviated as A, T, C, and G. The exact sequence of these nucleotides determines all physical characteristics of an organism. It constitutes an instruction manual for the cell's system, so anything the cell does is determined by the order of nucleotides. If you know anything about computers, this system should be familiar to you—it's very similar to the storage of binary information on a hard drive. Yes, that's right, you've got a microscopic hard drive in every cell in your body that contains all the stuff that makes you you—pretty wild, isn't it?

For example, a sequence like:

ATTCGAGGGTAAGC may tell the body "bright blue eyes!"

while the sequence:

ATTCGGAGTCAATT would tell the body "dark brown eyes!"

Both a sperm and an egg cell contain exactly half of the parents' DNA, and when they unite a new, full set of DNA is formed. Therefore, every child has half of his or her father's DNA and half of the mother's. This is what makes DNA paternity tests as well as DNA maternity tests possible.