

AJGS Eastern Suburbs Workshop - 19 May 2019

MAKING SENSE OF DNA

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GLOSSARY OF TERMS

DNA - Deoxyribonucleic acid - a self-replicating material which is present in nearly all living organisms as the main constituent of chromosomes. It is the carrier of genetic information - the fundamental and distinctive characteristics or qualities of someone or something, especially when regarded as unchangeable.

SINGLE NUCLEOTIDE POLYMORPHISM - SNP - A single-nucleotide polymorphism, often abbreviated to SNP, is a substitution of a single nucleotide that occurs at a specific position in the genome, where each variation is present to some appreciable degree within a population.

NUCLEOTIDE - A nucleotide is an organic molecule that is the building block of DNA and RNA. A nucleotide is made up of three parts: a phosphate group, a 5-carbon sugar, and a nitrogenous base. The four nitrogenous bases in DNA are adenine, cytosine, guanine, and thymine. Nucleotides pair up with each other to form Base Pairs. Base Pairs form sets that may repeat.

SHORT TANDEM REPEAT - STR - (Also known as a microsatellite) A short sequence of DNA consisting of multiple repetitions of a set of two to nine base pairs, used as a genetic marker when individuals differ in the number of repetitions. For example, AGTAAGTAAGTA is three repeats of the sequence AGTA: AGTA-AGTA-AGTA. STRs have a faster mutation rate. When they change, there is an increase or decrease in the number of repeats.

CENTIMORGAN - A centimorgan is a unit for measuring genetic linkage. It is defined as the distance between chromosome positions for which the expected average number of intervening chromosomal crossovers in a single generation is 0.01. It is often used to infer distance along a chromosome.

HAPLOTYPE - a set of genetic determinants located on a single chromosome; it refers to a group of genes inherited together from a single parent.

HAPLOGROUP - a set of similar haplotypes inherited together, or a group who shares a set of similar haplotypes; used to understand genetic lineages.

TESTING COMPANIES

Family Tree DNA - <https://www.familytreedna.com>

Ancestry - <https://www.ancestry.com.au/dna/>

My Heritage - <https://www.myheritage.com/dna>

23&Me - <https://www.23andme.com/en-int/>

TRANSFERRING DATA

	IF YOU TESTED AT			
YOU CAN TRANSFER TO	ANCESTRY	23&ME	MY HERITAGE	FTDNA
ANCESTRY	X	NO	NO	NO
23&ME	NEW ACCOUNTS ONLY	X	NO	NO
MY HERITAGE	YES	YES	X	YES
FTDNA	YES	YES	YES	X
GEDMATCH	YES	YES	YES	YES

RESOURCES

GEDMATCH GENESIS - matching & analysis - <https://genesis.gedmatch.com/>

DNA Explained - <https://dna-explained.com/>

Family History Fanatics - GEDMATCH Youtube videos <http://tinyurl.com/fhf-gedmatch>