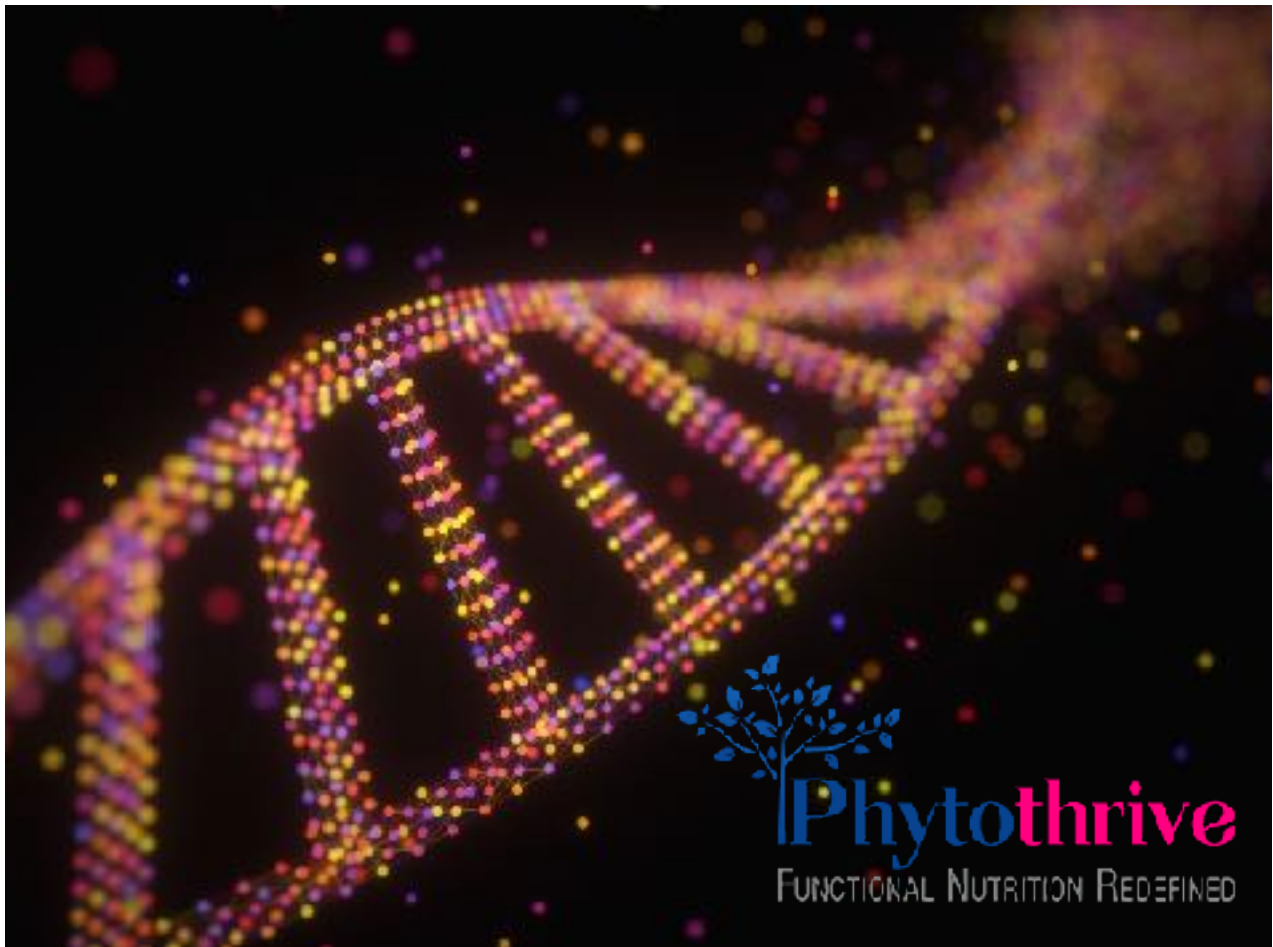


# FUNCTIONAL ENCYCLOPEDIA

By Phytothrive-Facts about Functional Nutrition

## Epigenetics



‘The study of changes in organisms caused by modification of gene expression rather than alteration of the genetic code itself.’

**-Oxford Dictionary**

**Epigenetics** refers to a change in the phenotype without a change in the genotype

**“Genetics only places the arrow in the bowstring. It is your lifestyle and environment that draws the bow and shoots the arrow. Your future health is the target”**

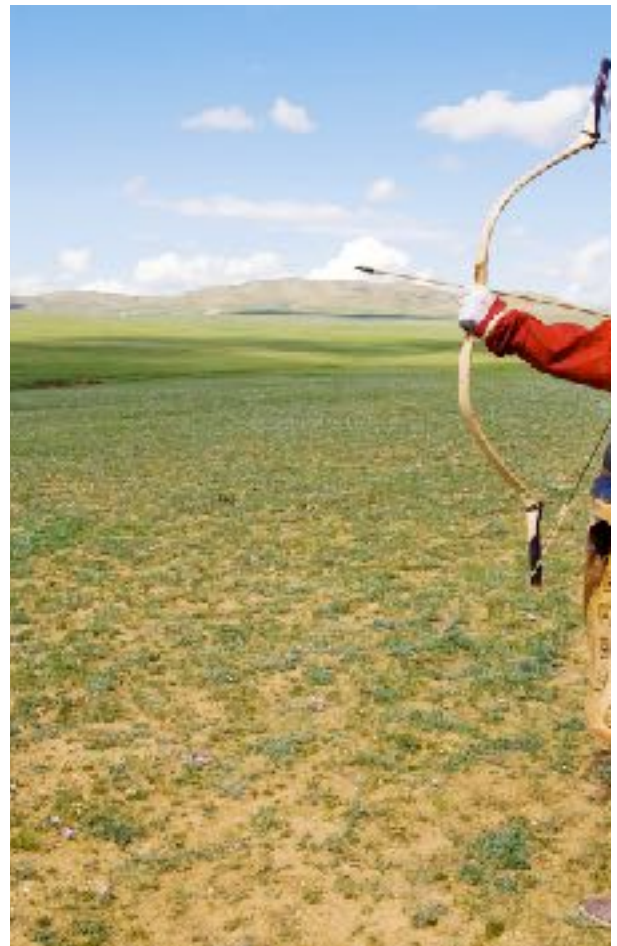
- We all have a unique set of genes, a unique permutation and combination from our **Ancestors**
- Our genes might make us **predisposed** to specific behaviour, physiology, psychology, appearance, traits and disease
- A **gene mutation** is a permanent alteration in the DNA sequence that makes up a **gene**, and can affect anywhere from a single DNA to a large segment of a chromosome that includes multiple **genes**.
- Certain genes from our ancestors or mutated or altered genes can make us predisposed or susceptible to certain conditions and disease, can sometimes be beneficial too.

**Epigenetics affects how the genes are read. Epigenetics are factors that cause certain genes to become dormant or active.**

is Nurture is our Phenotype, how we evolve based on our Epigenetics

•Our **genotype** is the set of genes in our DNA which is responsible for a particular trait. Our **phenotype** is the physical expression, or characteristics, of that trait.

•What is Nature is our Genotype, the genes which with we are born and from which we are predisposed. What



Epigenetics doesn't change the genetic code, it changes how that's read. Perfectly normal genes can result in cancer or death. Vice-versa, in the right environment, mutant genes won't be expressed. Genes are equivalent to blueprints; epigenetics is the contractor. They change the assembly, the structure.

**Bruce Lipton**

# EPIGENETIC FACTORS

- How we sleep and how we relax
- Whether we exercise or not, and whether the form of our exercise is suitable to us
- How we eat and how we hydrate ourselves
- How we respond to stress and how resilient we become



•How our relationships and social networks are. “**Social genomics** is the field of research that examines why and how different **social** factors and processes (e.g., **social** stress, conflict, isolation, attachment, etc.) affect the activity of the **genome**.”

**If Genetics is our innate Nature, Epigenetics is how we Nurture. In the age old fight for supremacy between Nature vs Nurture, The nurturing power of Epigenetics puts the power back in our hands**

•So what does Epigenetics mean? It means that we do not have to simply

accept our genes. Epigenetics has the power to both **negatively** and **positively** impact genes and this is profound!

- Epigenetics means you do not have to sit back in fear and wait for what you thought were inevitable genes to express. It means that you decide whether those genes will express themselves or rather, be turned on.
- Epigenetics mean that the power is back in your hands, and that in the case of genes, Nurture can possibly trump Nature! It really is upto you.