

## Cancer and Epigenetics

Here are Two articles about how our Epigenes are affected by Toxins and have the potential to lead to Cancer.

Dr. Mercola June 13, 2011

### Cancer and Epigenetics

The role of [epigenetics in health and disease](#) is becoming ever clearer, and I firmly believe this field of study will eventually supplant the current medical paradigm. The conventional belief has been that genes controlled their own expression and were therefore the direct cause of certain diseases. This laid the groundwork for the idea that your genes predetermined your health.

But genes are in fact NOT self-regulating.

Having "bad genes," does not at all mean you're doomed to suffer some inevitable fate. Genes are merely *blueprints*, and these blueprints are activated and controlled by something else entirely, namely their *environment*. This environmental information—which includes diet, toxic exposures, as well as thoughts and emotions, and more—can create more than 30,000 different variations from each blueprint, allowing for an astounding amount of leeway in modifying the expression or "read-out" of each gene!

### Byron Richards: Wellness Resources

The problem for new biological medicines is that you cannot take a gene-related shotgun to the human body and expect it to survive. The same genes do different things under different health contexts. While you can blast away at the core gene signal [NF-kappaB](#), involved in driving the cancer process. In healthy cells [NF-kappaB](#) is the brain of the cell that enables it to survive. It's all about context. It's all about what is switched on and what is switched off relating to the DNA. The only chance scientists have of figuring this out is by studying how nutrients function. Thus, hidden away in the Cytokine Research Laboratory of the Department of Experimental Therapeutics at the MD Anderson Cancer Center is research of necessity that is proving the unthinkable – the true genetic power of nutrition to improve health.

Unfortunately, their new study, [Epigenetic Changes Induced by Curcumin and Other Natural Compounds](#)<sup>1</sup>, is not available to read for free. Thus, the following is my condensed and simplified version of what they had to say.

The researchers are interested in epigenetic regulation, which is how DNA is modified or "managed" without actual changes to DNA. In cancer, DNA has been hijacked and regulation has been transferred to the cancer process. How to stop this process once it starts and how to prevent it in the first place is of immense importance to the general cancer issue. It is clear that toxins, pollution, infections, infectious toxic byproducts, ongoing stress, ongoing inflammation, and free radical damage all work towards damaging DNA and creating the possibility for mutation and cancer (adverse epigenetic influences). Such damage occurs daily in everyone and is hopefully repaired. When damage occurs at a rate greater than repair capacity then genetic weaknesses malfunctions are magnified, and cancer sets in. It is now known that this process involves epigenetic changes and the domino effect these changes have on gene activation (or inactivation).