An Interview with Dr. Ajay Goel

Just over two years ago, Good Health Lifestyles had the honor of interviewing Dr. Ajay Goel, a Professor and Director of the Center for Translational Genomics and Oncology at Baylor University Medical Center in Dallas, Texas. Since then, we’ve had an outpouring of requests from readers asking for more information from Dr. Goel on the promising effects that natural botanicals have on cancer prevention. GHL recently sat down for a second time with Dr. Goel to discuss his current research and learn about why we should all be paying attention to a branch of science called epigenetics. We hope you enjoy the update!

**GOOD HEALTH LIFESTYLES:** Dr. Goel, the majority of your work is based on cancer research. In your opinion, what’s the most important thing people should know about preventing the disease?

**DR. GOEL:** The biggest misconception about cancer today is that you can’t avoid it. This simply isn’t true. Everyone has the ability to lessen their chances of being diagnosed with cancer in their lifetime.

It’s crucial for people to understand that chronic inflammation is the spark that ignites all disease in the body, including cancer. In the simplest terms, in order to prevent cancer, you need to prevent chronic inflammation. So how do you do that? By adopting a healthy diet and lifestyle, and by taking natural compounds that are proven to be effective anti-inflammatories.

In my opinion, the most exciting thing happening in the fight against cancer is the research being done on plant-based therapies. It’s a special time in history: We are just beginning to discover the amazing potential of certain botanicals, and there is scientific proof that these natural remedies are highly effective.

If you’re interested in preventing cancer, the best advice I can give is to improve your lifestyle and to take natural, health-promoting botanicals that work on an epigenetic level. And of course, find a doctor who will work with you to help you maintain overall wellness in the healthiest way possible.

**GHL:** Can you give a quick “crash course” on epigenetics for those who may not be familiar with it?

**DR. GOEL:** Of course. Epigenetics is the study of how our genes are expressed when exposed to certain
stimuli. In regard to cancer, epigenetics is the process by which the body decides to turn on its tumor-promoting genes—genes that allow cancer to form—or tumor-suppressing genes—genes that act like brakes on a car and slow down the progression of cancer. Obviously, we’d like the tumor-promoting genes to be turned off at all times, while the tumor-suppressing genes would always be hard at work.

Epigenetics is influenced by your environment, diet, and lifestyle habits; each of these factors plays a crucial role in your risk of developing cancer. There are certain foods, botanicals, and lifestyle habits that actually help turn on your tumor-suppressing genes.

GHL: So contrary to popular belief, our genes don’t necessarily determine our destiny when it comes to cancer.

DR. GOEL: That’s correct. Through the science of epigenetics, people are starting to understand that less than five percent of cancers are actually hereditary. More than 95 percent of cancers are non-hereditary and can be influenced by your diet and lifestyle choices. This means that we can’t exactly blame our genes for the majority of cancer cases.

This isn’t to say that anyone is at fault when they receive a cancer diagnosis. The findings surrounding epigenetics are still fairly new, and there’s a great deal of education and research to be done so that more people can benefit in the coming years.

GHL: What is the focus of your current scientific research?

DR. GOEL: The work I do is primarily based on two kinds of cancer prevention: How we can prevent cancer in the first place and how we can find cancers early so that there is a better chance of someday curing people of the disease. We’re making tremendous advancements in these areas regarding the efficacy of natural botanicals including curcumin, grape seed, and boswellia. I’ve been particularly blown away by what we’re seeing with grape seed extract. In various studies, grape seed extract has been shown to be beneficial in the inhibition of breast cancer, prostate cancer, and colon cancer cells.

In the first study of its kind, my colleagues and I were able to show that grape seed OPCs, or oligomeric procyanidins, can even prevent cancer from reoccurring in the body. You see, chemotherapy has the ability to kill cancer cells, but not cancer stem cells, which remain in the body like seeds and may thrive again if the right environment presents itself. We found that OPCs from a specific French extract target a unique pathway called Hippo-YAP that is necessary for stem cell survival. These OPCs were found to eliminate cancer stem cells, which in turn prevents cancer from returning.

After exposing colon cancer cells to this grape seed extract, the number of live cancer cells was reduced by 70 to 80 percent. In an animal model of colon cancer using the same French grape seed OPC extract, tumor growth was suppressed by up to 90 percent!

These are pre-clinical findings, so more human research is needed—but the preliminary results are amazing.
and radiation. It continues to be a major focus of our research.

In ongoing studies, we’re finding that the most effective curcumin products are those that contain turmerones, a component of turmeric essential oil. Turmerones make curcumin more bioavailable in the body, which means better absorbability and enhanced benefits. They have anti-inflammatory and antiviral effects to help the body fight a number of health issues, but they are also able to halt tumor growth and trigger apoptosis to protect against a variety of cancers.

For example, in an animal model of colon cancer, turmeric essential oil featuring turmerones was shown to inhibit tumor formation by 73 percent, while curcumin (BCM-95) extract inhibited tumor formation by 63 to 69 percent. The combination of turmeric essential oil and curcumin together abolished tumor formation completely.

GHL: Are turmerones present in all curcumin products?

DR. GOEL: No, they’re not. One of the most effective curcumin formulas is BCM-95. This proprietary blend features an enhanced absorption form of curcumin with additional turmerones, and has been the subject of 31 scientific studies. It’s the only patented curcumin with turmeric essential oil containing turmerones.

I can’t stress enough how important it is that a curcumin product contains turmerones. Curcumin on its own is very hard for the body to absorb. Turmerones are important because they’re the compounds responsible for transporting curcumin into your cells, and for making it highly absorbable so the user can experience maximum benefits.

GHL: Are there any other botanicals our readers should know about?

DR. GOEL: In addition to grape seed extract and curcumin, boswellia and frankincense oil—both of which are extracted from the resin of boswellia trees—may be of particular interest to those wanting to prevent cancer.

Boswellia is amazing for so many reasons. It’s one of very few botanicals that fight a certain pathway of inflammation in the body called 5-LOX. Conventional medicines that are designed to target 5-LOX

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Ajay Goel, PhD, is a Professor and Director for the Center for Translational Genomics and Oncology, at the Baylor Scott&White Research Institute, Baylor University Medical Center in Dallas, TX.

Dr. Goel has spent more than 20 years researching cancer and has been the lead author or contributor to over 225 scientific articles published in peer-reviewed international journals and several book chapters. He is also the author of the recently published book Curcumin: Nature’s Answer to Cancer and Other Chronic Diseases.

Dr. Goel is a primary inventor on more than 15 international patents aimed at developing various biomarkers for the diagnosis, prognosis, and prediction of gastrointestinal cancers. He is currently using advanced genomic and transcriptomic approaches to develop novel DNA- and microRNA-based
come with a host of side effects, but boswellia squelches this unique type of inflammation with no side effects at all.

One of boswellia’s most powerful components is AKBA (acetyl-11-keto-β-boswellic acid). In a laboratory study, we were able to show the ability of high-AKBA boswellia extract to prevent the growth of tumors in colorectal cells. It does this through a process called DNA methylation, which essentially wakes up the sleeping genes that suppress tumor growth. The boswellia extract I would recommend is one standardized to at least 10 percent AKBA.

Frankincense oil, taken orally in softgels, also shows promise in its ability to prevent tumors. One study found that frankincense oil was able to inhibit tumor growth in bladder cancer cells without damaging any normal, healthy cells in the process. Other research has shown that frankincense may have the ability to stop the progression of breast cancer and pancreatic cancer cells. More research is needed on both boswellia and frankincense oil, but these promising botanicals are giving us great hope for the future.

**GHL: Any insight into what else the future holds for advancements in the fight against cancer?**

**DR. GOEL:** Cancer won’t be going away, but neither will our research on how to prevent it. I’m extremely hopeful that our ongoing studies will continue to provide insight into prevention and possible future treatment. I feel strongly though, that prevention really circles back to epigenetics, and what each of us can do personally to make the conditions in our own bodies more cancer-resistant. We all hold a great deal of power in our hands when it comes to fighting disease. To obtain optimum health, I would advise people to eat a proper diet, adopt healthy lifestyle habits, and stay up-to-date on the exciting research of cancer-preventing botanicals.