Boost Your Immune System With Peptides To Fight Cancer

Michael Karlfeldt, ND, PhD
with Kent Holtorf, MD

Michael Karlfeldt, ND, PhD
Dr. Holtorf, it is always a joy and pleasure to chat with you. I am so excited about this subject because I feel it is the next frontier in understanding how we can battle cancer.

Kent Holtorf, MD
Yes. It is exploding, and the U.S. has the highest incidence of cancer. Wait, I thought we were the superpower of health care. We are second worst in the survival rate behind, I think, Zimbabwe, or Senegal, or something like that. Whatever we are doing, we are not doing it right.

Michael Karlfeldt, ND, PhD
It is fascinating to see the amount of money that is poured into this field and the lack of production. If it had been a normal company, they would have gone under, been kicked out, gone bankrupt, and moved on by now.

Kent Holtorf, MD
They received all these subsidies. I will not go too much into the falsifying of data and how the studies are designed to tweak the results a little bit. Or remember, there was a drug program four years ago for prostate cancer, and yes, the people lived six months longer, and they used to have to use a huge population for it. They were sick as dogs, and it was 200 to 300,000 a month, and they got approved, and it just so happened. Yes, over half the people on the committee that would recommend it or not have stock in the company.

Michael Karlfeldt, ND, PhD
It is fascinating how that is business now. Well, I want the listeners to come to understand the breadth of your experience is Dr. Holtorf is the founder and director of the nonprofit National Academy of Hypothyroidism and Integrative Sciences, which is dedicated to the dissemination of new evidence-based information to doctors and patients on the diagnosis and treatment of hypothyroidism and advanced integrative diagnostic and treatment protocols. He has been a featured guest on numerous TV shows. CNBC, ABC News, CNN, Extra TV, Discovery Health, The Learning Channel, The Today Show, Dr. Dean Edell, Glenn Beck, Nancy Grace, Fox Business,

ESPN, and Rush Limbaugh—the list goes on and on. WebMD, the Wall Street Journal, and the L.A. Times.

Kent Holtorf, MD
Howard Stern.

Michael Karlfeldt, ND, PhD
Howard Stern too? That must have been a kick.

Kent Holtorf, MD
Yes, it was funny. That one, The Man Show, and The Mythbusters were, I guess, the funniest clips.

Michael Karlfeldt, ND, PhD
I love it. Tell me a little bit. You own your integrative peptides. That company is your wheelhouse. In addition to hypothyroidism and hormones, immune system function, infectious agents, and peptides are your masterpiece. If it is somebody we need to lean on regarding understanding peptides. You are the man.

Kent Holtorf, MD
Thank you. You are very kind. But, yes, there are a lot of good physicians out there who use them. They have saved my life. My big thing was thyroid, and because we got so many patients better when I got out of medical school and residency, I was very sick and I could not see a patient. It was so exhausting. I went into anesthesia because they were asleep. I will talk to them. Then I realized I hated this, and I was deteriorating that I went into family practice, and I am, "This is getting tough, and it is ingrained in medical school. Do not go to an alternative. It means there is no evidence." You listen to him. I have been to numerous university doctors and specialists. "Oh, you are just stressed, and you cannot find anything so they do a CBC and chem panel and a cholesterol test, and all you need to is Statine.

I went to the family practice, and the first thing it did was take over an insurance-based family practice and convert it to cash. I spent a long with patients receiving better care within probably 18 months by doing thyroid optimization and hormone optimization. It just made such a difference. I was just a believer in the released T3. Then I was doing fine. I moved back to California, we started a beer company, and we had a hangover-free beer. However our business model was not very good, so we moved back to California. I went through a stressful divorce and just had Lyme, Babesia, and Bartonella, and went into heart failure. My heart was just fibrosis. I could not stand up, and I could not go upstairs. The cardiologist said that maybe in 10 years you can get 10% better. I am, No, I am not living like this. It is horrible to walk or be bent over. I said, Okay, I am either going to end it or I am going to go find a treatment.

I went around the world; there were a lot of things that helped, but nothing like this. Then I was in Belgium and did a bunch of peptides. I did not think anything would happen four or five days

later. I just noticed I just walked up the damn stairs. Upright, I am, we went backtrack. What did I do? It was funny when I went to the cardiologist and said, Standing up, and it echoed, You were normal. He goes. That is nice. I am, Did he ask me what I did now? It is funny, but I am very grateful for peptides, again, they changed my life, and we were able to plan and bring them into the U.S. legally. As a trained physician, it just makes the practice so much easier because you can get these sickest patients from A to B instead of, I say, treating a lot of Lyme and mystery illnesses and nerdy germ diseases and also hormones and stuff.

But we keep getting this sickest of the sick. But that just makes it so much easier and it brings back the pleasure because you see so many spectacular responses and they are, "Oh, thank you so much. I love those groups of peptides." They are big fans, and we are progressing with how we are delivering them and ways to tweak them legally. They are natural, using natural isomers that are much more potent, have much longer half-lives, and are much more bioavailable. They are unique in the industry, and I am excited to get to research peptides. and a lot of this research is 40 years old, from Khavinson, who was giving it to the Russian army first, then the Olympic team. I think that one team, the women's swim team, all had deep voices, which is why swimmers all have such a deep voice as well. We came here to swim, not to sing.

Michael Karlfeldt, ND, PhD
What do peptides do in the body? Why are they so effective?

Kent Holtorf, MD
Yes. The question is, What the heck is a peptide? Well, a peptide is a chain of amino acids naturally occurring or they can be altered. If they are arbitrary, it depends on who you ask. If they are longer than 40 or 50 amino acids are considered a protein. They were different than people using the pituitary, it was the master controller of the body. But we found that this peptide, even tiny peptides, two amino acids, dipeptides. No one thought anything or how could that do anything to me? Very powerful. The ones that were an oral supplement company and so long peptides are very difficult to absorb to be bioavailable. Now BPC is 14, BPC- 157 is the go-to one we can talk about that. It is unique in that it is orally bioavailable and equally potent for injection. It is that they are made in the gut it makes sense. But we do other things that if there is a peptide in the body that the body feels is critical, it will tap it and protect from the digestive enzymes. Acetylene is one and A Methylate is the other and it becomes resistant to the digestive enzymes and is much more bioavailable, much more lipophilic. It crosses in across the membranes, less polar where it is interesting you hear all this now because doctors are all confused.

What is the stable BPC? The owners of the patent for the Acetylated BPC ran out so they came up with an Arginine salt and they said, oh, it is more stable in the gut. Even though multiple third-party studies said that the Acetylated BPC inflated was Methylated more. if you omitted 80 more then you could use an entire code if that was the case BPC is pretty stable in the stomach but as soon as it gets in an alkaline environment it separates and is just prone to digestive

degradation, it is much more polar so it does not absorb as well. so a lot of people that use it are adding these excipients snack that break open the tight junctions and to get it in there, well, wait a minute, you are treating the gut and most people have increased permeability, leaky gut, and you are breaking it open each time you give it. for a healthy person that can heal quickly, maybe it is okay. But, they have been banned in several countries and it seems to defeat the purpose. But I want to bring up the big question now that we hear.

Michael Karlfeldt, ND, PhD
In regards to, cancer, what role can peptides play? Because with cancer we are dealing with, the tissue that all of a sudden loses it is appropriate communication signaling. I know it is a huge factor. Also in regards to immune system function, we have now things called immunosenescence where the immune system is not as effective and functioning while it is in that, just hanging out immune system function. What role does peptide play in cancer?

Kent Holtorf, MD
Yes. Some, peptides directly do some things, but most of them are modulating the immune system and we will go back to we will break down the immune system very simply. It is very complex, but you have to have a simplified model, the one we found that is most clinically relevant is looking at one side is th1, and you put Tregs in there which is responsible for killing intracellular infections and cancer. The downstream effect of that is natural killer cells function and that is the cell, which is the biggest one that monitors the body for cancer and, cells that go awry and, kill them and recycle all the cellular goods. Then th2 is the other side, which is responsible for extracellular infections. Then also on that side of T h 17, which tends to be the auto-immune segment. Now within the thymus here in your breastbone controls that balance. The problem is, that it starts in the limiting and just shrinks by about age 15. It just goes down and down and it hits its nadir.

The lowest part is around 35 and 45. That is when you start getting so what happens is it does this that th1 drops and now you cannot fight interstellar infections in cancer or reactivating infections. Your body's been suppressing all of these Epstein-Barr and Herpes viruses and it is a two-year chart and the th2 to th17 goes up. now you have all this inflammation, you tend to be prone to autoimmunity, but you cannot fight the intracellular infections in cancer. That is where I learned because when I had Lyme, Babesia, and Bartonella, I did three and a half years of the highest dose of I.V. antibiotics seven at a time. Three times the dose I never give a patient. It did not do anything to my natural killer cells on the chain was zero. I remember, in the ICU the nurses get a shift change and the ones that are ill and this is that AIDS patient keeps turning up negative for HIV, and that is why I found the power of immune modulation. You are lowering the inflammation, raising that immune system that can fight these infections.

It goes along with almost every chronic illness that looks the same. You look at an autistic child, looks like a Lyme patient, looks like a chronically ill autoimmune patient. We just started, we have been doing a veterans program and these guys are a mess. They are just sick and they are

getting the worst care just pumped with anti-depressants, and antipsychotics. We are covering all their care and everything so we can get some good tests because, they will not do it. After all, they are expensive. But we found that all of them had won. Of course, the stress and all that PTSD, traumatic brain injury, new numerous issues, and tons of toxins. Then, every single one had Borrelia, and Lyme disease, and most of them had a co-infection. The big kicker is, that every single one of them had PANS and antibodies to their receptors in their brain to other parts of the brain. To the dopamine receptor, and serotonin receptor. You wonder why, they are not responding to any depressants and antipsychotics. They are all blocked. The key is immune modulation, getting rid of those PANS, lowering that inflammation, and turning these people around very quickly that have just been in and out of the VA, which is that, they see multiple neurologists, they just hand them out meds.

I will tell you real quick, those are too long. But the first patient we saw, terrible traumatic brain injury and could not read. Terrible PTSD, could not sleep, anxious. He had allodynia where he just barely touched his skin. It is painful. He came to it. I do not forget when Ali found us but the first thing that got rid of allodynia by the fourth visit, oh they found him face down essentially with heart failure, pulseless, kidney failure, liver failure, and they put him in an induced coma and said, he was not going to make it. Well, he made it in special forces, tough guys. But he was still mess went to some neurologist and finally came to us and we found his immune system was terribly bad. The Lyme and he had bartonella and we are trying to figure out how could they all have Lyme and turned out all the special forces go through Fort Bragg in North Carolina and they are in there and the brush for four weeks at a time. We think that is where they are getting it. But, no proof of that. But by modulating their immune system, all that stuff gets better. He can read. He went on a couple of months later, he went camping. When they go camping, they bring a sleeping bag. But I am not a vet, but just treating these guys, you think that Special Forces is going to be the kindest, most appreciative, polite people. It is just been a joy treating these guys and the care they get. It is just, with the cancer care, it is just you got this air here. Here is your protocol that, Oh, we were doing that 20 years ago, too.

Michael Karlfeldt, ND, PhD
It did not work then.

Kent Holtorf, MD
Yes, but we did say that, but it is a standard of care.

Michael Karlfeldt, ND, PhD
It does not matter, whether it is Lyme disease or whether it is autoimmune, or whether it is cancer. It all relates to immune system dysregulation. For an individual battling cancer, it is the same type of scenario. You need to take a look and see, how am I able to modulate. You were talking about the thymus? There are a couple of very, you have I would not say famous, but the two that you use the most, the Thymosin Alpha1 and Thymosin Beta4. Then if you have a shorter

version of Thymosin Beta500. What did they do and how well, what do you see their usage and what are the benefits?

Kent Holtorf, MD
Okay, let me just mention just so that everyone listening understand how it all goes together, where, when you have this, low th1, high th2, you get all this information. That is when all these, diseases of aging start happening and they reactivate infections and all these things. If you can bring up that th1 and bring down that th2, then you are doing a good thing. Yes, so, and then, it is funny, there is a trial that came out, got all these headlines because it is big in anti-aging now. They hit a trial where they gave people growth hormone, metformin and DHEA, and they showed that the thymus improved a little bit. Very small study. But I am, Why you are going to that length when you can just we can give you safe and effective dynamic replacement therapy? There is the Thymosin Alpha1 has been around for decades and is approved in 44 countries for cancer and fighting infections. It erases that th1 and that is been the most popular because it is a commercial med.

But they made a mistake and came out with a study that showed it was safe and effective for COVID early on in the COVID pandemic. Now being that the case, the FDA could not then bring out their vaccine for emergency use and bypass and all of those things. They banned it and so we said, Okay, what are we going to do? We did metabolomics, and transcriptomics and looked for a replacement and we found a combination of Thymogen and Vylon with only two amino acids. Very bioavailable it is 100 times more potent than Thymolin, which is why doctor uses a lot as an injectable especially when combined with Vylon. But I cannot call it Vylon because that is a trade name, but we call it immune peptide A2. But we combined that it and they do so many other things and lowering inflammation and that human trans growth factor beta, which is a big stimulus of disease and cancer and raises that th1 much more potent than Thymosin Alpha1. Although Thymosin Alpha1 has been around forever and they got, huge studies on it. There are lots of studies. That is when I first started lecturing on peptides and I just list all these studies. Doctors are, Wait a minute, I keep up with the literature. What? How could you have so many studies? Why have not I heard of this? Because there is no drug rep bringing the studies to the doctor. But yes, so that is a big one. We have a lot of others they are all very antimicrobial. The other one is other is TB4. TB4 or thymus Beta4 is the most abundant thymic peptide and you can think of it as more of a modulator. It will increase th1 and lower th2 as more adjuvant effects.

In one interesting study, they looked at COVID patients on autopsy, which they did not do autopsies in COVID patients, but there was no thymus and beta4 in the lungs of people who were intubated and they ended up dying. But the problem is it is a multi-domain amino acid for a peptide. It is 43 amino acids and it has different parts to different things. It is not orally active because it just gets broken down. But there is one domain that stimulates mast cells which can be helpful and healing that. But for our patients, it is not a good thing. Then the first four amino acids are the workforce that is for the immune modulation. We took that part and there are a lot of studies showing, repairing cardiac function and nerves. It works on the tight junctions in the

gut. It does all of those the Vylon and the Thymogen, had tons of studies on cancer showing in a year a fourfold decrease in cancer. The Tb4-FRAG, not that they did not concentrate on the cancer studies they are more of the rejuvenate part but then we found a natural isomer that is dramatically more potent and resistant to enzymatic degradation. That is another one that you can use together and isolate with peptides they are very synergistic and they all get the Thymosin work similar, but has a little different effect. Other ones that will do that again, Thymolin, those are the key ones. There is a the Thymus secretes a bunch of them different sizes and that but yes, definitely the main ones commercial was named Thymus Alpha1 but America they said nope.

We came out with a very we love the product the feedback's that great and then so you can add it now is lower because it people with that is antibodies to the brain and what the studies show is a pretty of a bunch of heavy metals and toxins. You still do not tend to get autoimmunity, but you add an infection to that. There was a study in the cobalt mines in Africa and they were just loaded with heavy metals and cobalt, but they did not have a higher incidence of our immunity than the general population. But the ones that got malaria, even if it, was treated and the resolved, they all had antibodies to their brain. That is how we found with these that is what they all have. I think so many people have that and do not know. All this mental illness and ADD, and bipolar and depression, anxiety. But then another one, BPC is the go-to it heals and lowers inflammation and protects all the organs from your liver, from an avenging angel, mushroom toxin and alcohol medications, protect from overdoses, they gave it to rats that had, they gave them both MS and inflammatory bowel disease, gave it orally reversed both of them cut the rat sciatic nerve if they bathed in BPC it reconnected. If they did not, it did not work for kidneys, works for brain depression. There are so many things that are where we tell people to start. the nice thing is you cannot go wrong. They cannot even find a toxic dose on these things, giving a thousand times the dose that people would normally use and they are potent down to pica gram levels.

Normally there are milligrams most supplements and then there are nanograms with 1000 for less then five kilograms. That was less than that. Tiny, tiny doses. As you mentioned, how they are different than the hormones? The hormones go into the cell, into the nucleus, change proteins, synthesis, slow on, slow off. Peptides tend to with some exceptions, work on the cell surface and have pleiotropic multiple effects with secondary messengers. People say, well, that concerns me. Well, your meds are do one thing, but when your meds does one thing, you tend to have more problems. It is counterintuitive. Supplements do a lot of things because let us say the body one thing gets messed up, there is 10 other things. If they if a meds is one thing, you have got all this problem here and it ends up backfiring. But the peptides do work the supplements and tend to fix all the things that are associated in that arena. yes, there are the things I do not know about any, major side effects and even minor side effects. Some people say, oh, BPC gives me energy, but yes, I cannot take it at night or some a weird thing, but in general, exceedingly say. Another one is KPV is the last three amino acids of melanocytes stimulating hormone and well as I said many hormones that some of the Lyme docs are forward thinking. We are using

Mylanta10 for inflammation. Blanton was out there is one and two that increased weight loss energy and libido so excited to sign me up.

But Mylanta10, it stimulates melanocytes, which is great when you are young, but I rise early, try it and I am pretty 80 days I work. It is not working. All of a sudden I was someone painted me with a black highlighter. It just looked so weird. But so the KPV does not do that. It is very interesting in that it is one of the most potent inhibitors of mast cells. It is causes a lot of so it is very anti-inflammatory, but it stimulates your immune system, which is an oxymoron. It is very anti-microbial. For instance, it is more potent against fungi and mold than Diflucan at 1/1000 per dose. It is also pathogenic staph. You want to raise that th1 lower that th2 to and that is how you urinate and get back to that younger immunophenotype. You can gauge someone's age based on their immune system ratio. If you look at the CD4, and CD8 in with HIV patients, they monitor their CD4, but the ratio is shown to be even more sensitive. But as you get older, especially if you are under one with that ratio, you have a lot of senescent cells. We will talk about that. You want to be above three, 3.5 on that. You will see as you get older, just, and that is why people get shingles. Whether you give a vaccine, just boosts that immune system. The immune system is shown to be an independent, marker for longevity quality of life and so many other things.

Michael Karlfeldt, ND, PhD
Is there any ten-year time BPC, then people are thinking, well, it is regenerative restorative and with cancer or then you have cells that are growing fast. Do you want to bring in something that is building things? As so, is there a danger with any of these peptides in regards to, while you are dealing with cancer or in conjunction with chemotherapy or post-chemotherapy or post any therapies?

Kent Holtorf, MD
Yes. As you generally know and some increase in angiogenesis and so they, Oh but it, they only do it in a normal sense for regeneration. The cancers are very unique. There was a study that showed there was increased Thymosin Beta4r around cancers and says oh it is causing cancer but it is going there to fight the cancer and try to modulate the means. It is, Hey, Ali, see these guys in yellow jackets that are red trucks, with a Dalmatian in it at every fire? I think they are causing it, and there are a lot of studies that prove that was not true. It was an association, not a cause and I hear that a lot about stem cells and Oh, they are making it grow and stem cells are great for cancer and they are a great immune modulator. You look at all the treatments all but a large majority of them are immune modulators, ozone, vitamin D, zinc, all these things that help bring that back tend to be what is great for our chronically ill patients, as well as cancer patients.

Michael Karlfeldt, ND, PhD
The word immunosenescence and that is an aging immune system in a way. How can we reactivate that? Because we want a young and healthy immune system. You mentioned the ratio between CD4, and CD8, which are components of the immune system, plays a huge role in

seeing how our immune system of vital that is. What can we do to correct that and shift that through more in a positive way?

Kent Holtorf, MD
Yes, and it is a big focus of the research and even longevity realm to get rid of these senescent cells. As you get older from inflammation, stress, poor lifestyle pollutants, toxins, pesticides, excess glucose, lack of exercise, lack of sleep, loss of nutrient deficiencies, you have a problem. The now a result and thymus evolution and then this immune shift. What happens is the cells with all that stress, get to the end of their lifestyle cycle. They get short telomeres, which are little caps on the chromosome. Each time it replicates goes down the limit that it cannot replicate anymore. It is got damage. What happens is the mitochondria sense this and instead of transform into a energy-making organelle to a oxidant-producing organelles. They start pumping out all these reactive oxygen species and inflammation and then they get this resistance to being normal autophagy, where your body's renewing these cells that are not working too well but they are resistant especially because you need a robust one genetically cell functions to gobble those up and reuse all the components of your keeps ones too low.

That is going to add to it. You have these cells now that are not only not doing what they are supposed to, but they are causing all this inflammation. Those will recruit more senescent cells. Then you become, more and more and more. That is when people start getting very sick. Especially there are studies on type two diabetes and congestive heart failure and they are essentially non-reversible currently is is the thought. There is because senility there is several ways to selectively knock those out which they should have been one is you got to have to get that th1 up so something's going to gobble it up. But for instance, there is what's called FOXO4-DRI. It is a reverse molecule that has to do with autophagy that will result in selectively knocking out those cells. It will not harm any other cells.

There is another method that is approved for transplants, and it is called, the Immunosuppressive, but it is not. It is an immune modulator then the vice setting curcuminoids, flavonoids and things tend to there is two pathways that they block separately. The thought is now is is doing it once a month. I could do it three days a month, knock those out. Then you give other peptides to protect the mitochondria, the DNA and then, but then get rid of the senescent cells and people can turn around very quickly and some of these heart failure studies where the heart is just full of senescent cells that are just not working and they are pumping out all this inflammation and also, chronic kidney disease, diabetes, and they can reverse very quickly. Yes, there is a ways to, one, get rid of those cells. Then also there is what it called sassed inhibitor. They know secreting all this inflammatory cytokines, there is other peptides and meds that will reduce the amount of it is not fixing it but it is reducing the damage that they are doing. Those are part of it and a lot of research going into that currently.

Michael Karlfeldt, ND, PhD
Yes. Well, Dr. Holtorf I know we can chat forever and you.

Kent Holtorf, MD
I know, how many times have we tried to get together?

Michael Karlfeldt, ND, PhD
I know.

Kent Holtorf, MD
Thanks for your patience. Yes.

Michael Karlfeldt, ND, PhD
Thank you so much. These peptides, we are talking about, TB-Frag, we are talking about, Thymosin Alpha,1 or we are talking about KPV. They are available at your company. I use them in my practice and I love the effect of them and the beauty of them. It makes it readily available to people. I appreciate you going through that, taking that step because it is frustrating when you have great science, great tools, and then you are not able to access them. Thank you for for taking those steps and making it very clear.

Kent Holtorf, MD
Thank you, and we are going to have those 20 new products that are unique. A new thing is going to bio regulators, very tissue-specific and we will do a lot more combinations and liposomal delivery, real liposomes. Most liposomal they take some less it and shake it. A lot of energy is a liposome. We also are going to be launching a year-long peptide and stuff that works training and so monthly lectures. I am going to come also to our nonprofit and if the positions that are, have a patient who has every sign of a low thyroid, but whose DSH is normal or the same for a patient no one can fix me and I am so tired and there is a general doctor that is on your head, but a lot of resources there. That is our nonprofit. Now we have more nonprofits than profit so anyway, did not work out as I thought.

Michael Karlfeldt, ND, PhD
Oh, thank you so much. Dr. Holtorf, I appreciate this.

Kent Holtorf, MD
Very nice to take the time. Thanks. Bye..