

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

Karen Jagoda: Welcome to the EmpoweredPatientPodcast.com show. I'm Karen Jagoda, and my guest today is Dr. Hing Wong. He's the Founder and CEO of HCW Biologics, HCWbiologics.com. Hing was recently named the 2021 Weaver H. Gaines Entrepreneur of the year, presented at the BioFlorida conference to individuals who have made extraordinary contributions to the growth of life sciences. Welcome to the show today Hing, and congratulations on this honor.

Dr. Hing Wong: Oh, thank you very much, Karen. Well, I am definitely humbled being the recipient of this prestigious award, but this really reflects the success of the entire results of the HCW Biologics team. So, I accept it on behalf of the entire HCW Biologics team.

Karen Jagoda: Well, thank you. I appreciate that inclusive comment there. I thought today we should be talking about the innovative and transformative immunotherapies that you are working on for age-related diseases. I thought it'd be useful if you could start us off with a description of how you define age-related diseases.

Dr. Hing Wong: Good. There is a lot of really strong scientific evidence demonstrating that when we get old, we basically accumulate chronic inflammation. This chronic inflammation with aging basically makes up the word inflammaging. What it does is the accumulation of chronic inflammation and is the cause of a lot of major diseases in humans, such as cancer, neurodegenerative disease, Alzheimer's disease, Parkinson's disease also diabetes. So our mission is to try to find drugs, immunotherapeutic in particular, to disrupt this inflammaging in a sense to disrupt the chronic inflammation accumulation during the aging process. And that's what we are set up to do.

Karen Jagoda: So, what is the focus of the research at HCW?

Dr. Hing Wong: The focus is how to disrupt chronic inflammation because it's the etiology of all the aging-related diseases. We are particularly interested in developing immunotherapeutic drugs and using immunotherapeutic drugs to stimulate or rejuvenate our immune system. So our immune system can get rid of the sources for generating chronic inflammation.

Dr. Hing Wong: We particularly have in mind when we develop the drug, and we want it to be very convenient to administer, be it in the doctor's office or basically doing it at home, and also make it very low cost. We already know now all the drugs are very high priced and really put a lot of economic burden on the society. So we have these two things in mind. Number one is to develop a drug to remove the source of the chronic inflammation but is also very convenient to administer and also has a very low cost for making it.

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

- Karen Jagoda: Now, this low level of inflammation is called inflammaging. Is that correct?
- Dr. Hing Wong: Exactly. And it's really a combined word because when we get old and we start accumulating the chronic inflammation and up to a point to trigger all these diseases. And so, people put the words together called inflammaging.
- Karen Jagoda: Is it accelerating our aging process, or because we're aging, we're then developing this kind of inflammation.
- Dr. Hing Wong: Oh, very good question Karen. I think a general belief today is that when we get old, our immune system cannot get rid of the sources of the chronic inflammation. So we start accumulating it. So, in a sense, the chronic inflammation is really the trigger for aging and not the other way around. You cannot control the chronological aging, but you actually can control the biological aging. That means it's how old we are, we are. But inside our body could still be a young individual by controlling the inflammaging process.
- Karen Jagoda: So tell us a bit about the indications that you're working on. I understand that cancer is part of this family of age-related diseases. Tell us a bit about why you've chosen that path.
- Dr. Hing Wong: Very good question. There are a lot of reasons we chose that. Let me just name quite a few of them. Number one, as you mention, cancer is truly one of the diseases caused by aging because we notice people who have cancer tend to be at an older stage. And so it is a really a good indication to have very well-defined endpoints to see how a drug would really get rid of the cancer. And second of all, the company really has a lot of expertise and me. I mean, in the last 20 years, we developed an immunotherapeutic drug, and now it's in the stage of getting FDA approval to really address certain cancers like bladder cancer. So we have a lot of expertise in that field. We really feel we can develop the drug and it would affect cancer and using that experience in clinical trials to define the safety dose and the regimen to directly address really the inflammaging and the other indications.
- Dr. Hing Wong: And I also want to back up to say couple of things here. Why cancer? Now Karen, all of us when we experience either ourselves, hopefully it's not, but when there is a regimen where they have chemotherapies against cancer, two things happen. Number one, most people would get a relapse, and the other is they have huge side effects, right? We have chemo brain that and all those effects. Now all that is mainly because when we use chemotherapy, the drug itself does not really completely clear the cancer cell but instead actually induces the sources of chronic inflammation, both in the tumor and also in the off-target tissues.

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

Dr. Hing Wong: Our idea is to get rid of these chronic inflammation sources induced by chemotherapy. So, on the one hand, you can enhance the chemotherapy's efficacy against cancer and also can completely eliminate the side effects caused by the chemotherapy. So that's another reason we chose cancer being our first indication.

Karen Jagoda: Is this a cure, or is this just keeping the cancer from developing faster? Where does it fall in that spectrum?

Dr. Hing Wong: Our idea is to completely get rid of the cancer and, particularly, the relapse. This, as I mentioned, cancer chemotherapy today, maybe works short-term, but majority of the cases go to relapse. This relapse is because of the chemotherapy-induced inflammaging, both in the tumor cell and also the off-target tissues. So, if we can get rid of that and we believe we can get rid of the relapse, it also gets rid of the side effects of chemo. So, our interest is to really completely get rid of the cancer itself. And again, eliminate the side effects people experience under chemotherapy.

Karen Jagoda: Tell us a little bit about your proprietary platform T-O-B-I. Is that the way you pronounce it?

Dr. Hing Wong: Sure, we call it TOBI. The technology is using a very unique so-called Tissue Factor-Based Scaffold to build multifunctional fusion molecules. And the way it is, we can actually use this molecule to put all the immunotherapeutic molecules that you think could be useful for your indication all together. They are not in nature as it happens—we are just using this opportunity to put them together. So you can actually design a molecule you want, and you want the molecule to do the things you want them to do. So this is a very versatile protein scaffold, and we call it the TOBI technology. We have been using it now and manufacturing those molecules. We have been in clinical trials or going to be in clinical trials. So this is a homegrown technology. And we developed it ourselves, and we did not license it from outside at all. And we are very happy to say it's really useful so we can support the clinical development. Hopefully, it will be the future new drug.

Karen Jagoda: This is very exciting work. How is the drug administered?

Dr. Hing Wong: As I said from day one, we are particularly interested in developing drugs using a subcutaneous injection. You basically just put the drug under the skin. And because of that, the drug would not need to be administered in an infusion center or a clinical site. You can actually in the future do it in the doctor's office, or actually, you do it at home yourself, just like people who have diabetes. They use the insulins, and they do it at home.

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

- Dr. Hing Wong: That was really addressed from the get-go, we want to develop drugs that way. And so, it would number one, improve the quality of life for the patient. And number two, really reduce the healthcare cost of administering the drug. So all our drugs developed so far today that come from the TOBI platform technology are all used that way. And in the clinical trial, we are doing subcutaneous injection. And this may also need to occur very frequently. So, we just make sure it would really improve the quality of life of the patient.
- Karen Jagoda: Would this be something that someone would use as a preventative measure if they had a family history say of cancer, or if they wanted to delay the aging process and the impact of aging?
- Dr. Hing Wong: That's our thinking. But short term, we definitely would like to demonstrate the drugs show activity against particular diseases, like either cancer or with the neurodegenerative diseases. But in the future, we can see if the drug is safe enough, and it could be useful as a preventive, and prevent people having cancer, or prevent people from having infectious diseases like many, many viral infections.
- Dr. Hing Wong: Today, I think it could be preventative if you can stimulate the immune system and also definitely for cancer and definitely the neurodegenerative disease. We are particularly interested in Alzheimer's disease, Parkinson's disease. I think our long-term goal is really to cause it to be used as a preventive medicine.
- Karen Jagoda: So, what's next for HCW?
- Dr. Hing Wong: Next is we have two very exciting new lead molecules. They are entering the clinical development phase. Two months ago, we cleared the US FDA to put one of the lead drugs, we call it HCW9218, into patients who have refractory or relapsed pancreatic cancer. So, we are going to do that and mainly try to, again, identify the safety dose and the regimen. And so, people can take it, and we continue to develop it in the cancer indication.
- Dr. Hing Wong: By the way, pancreatic is not the only cancer we are interested in getting into the clinical trials. We do have a so-called solid tumor basket trial coming up, and that is including metastatic breast cancer, metastatic prostate cancer, colorectal cancer, and also ovarian cancer. So, our strategy and what we are doing in the short term is we put the drug into clinical trials against solid tumors and in the longer term -- in a longer-term means once we get the safety profile established -- and then we are going to branch out to get into the other age-related diseases and particularly like diabetes or neurodegenerative diseases.

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

Dr. Hing Wong: And we also have the second lead drug being developed, and we would expect to get into IND. And really effect, really look at autoimmune diseases such as multiple sclerosis, cardiovascular disease, and also with particular interest at this point, to look at alopecia which actually is an autoimmune disease. Again, our strategy is also to put that drug on it. That drug is using a different route to calm down the chronic inflammation, and that is by inducing so-called regulatory T cells. So that's our strategy, in the long run, both molecules, either combined or individual, could be used and to address this chronic inflammation or so-called the chronic inflammaging.

Karen Jagoda: The last question before letting you go today, I just wanted to ask you to tell us a bit more about your background and why you're so excited to be working with your team at HCW.

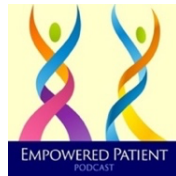
Dr. Hing Wong: Well, it's a very good question. I think in, in my life, I have done a lot of things both on the research side of that. I published over a hundred peer review or scientific papers in the high impact journals. And also, I do a lot of things because I set up companies, I sold companies and like that. But the last endeavor that I had was back in 2017. I sold the company to another company with a valuation that was pretty high. It was over a billion dollars.

Dr. Hing Wong: And after I ran it for about eight months and I always asked myself what my next step is. To make it short, I think I want to fulfill my lifetime dream to develop products that will have a huge impact on human health span and hopefully also life span. So, I put that really to try. And so I really resigned from my, the company, I was running and set up this company. Again, it's really my, I would say lifetime dream, to pursue developing drugs that would be able to improve the health span or life span of humans.

Dr. Hing Wong: They have a lot of faith in me, and after I set it up, they all wanted to come back to work with me again. And I really am very honored to have a team like that. And so we can move really quick. And that's what I think the exciting thing is about. And now, particularly, we developed two product candidates, and we have a lot of hope and a lot of really strong scientific data to back it up. They have a very, very good chance of being the first kind of drug to address human health span and life span.

**Extending Health Span with Focus on Chronic Inflammation
Induced by Chemotherapy Used to Treat Age-Related Diseases
with Dr. Hing Wong HCW Biologics
An Empowered Patient Podcast Published January 11, 2022**

Karen Jagoda: Thanks to my guest today Dr. Hing Wong Founder and CEO of HCW Biologics, HCWbiologics.com. I'm Karen Jagoda, and you've been listening to the EmpoweredPatientPodcast.com show. Follow me on Twitter @KarenJagoda like us on Facebook @empowerpatient radio. Thanks for listening. And we'll see you next time.



This transcript has been edited for clarity.

**The Empowered Patient Podcast can be found on the Libsyn network,
Amazon Music/Audible, Apple Podcasts, Google Play Music, iHeartRadio, SpotOn, Spotify,
Stitcher, Tunein, Radio.com, Gaana, Deezer, JioSaavn, Audacy, PlayerFM, Samsung and
MedicalandPharmaInsider.com**