

SAGE CROSSROADS

Interview with Dr. Michelle Dipp Pharmaceuticals and Aging

KYLE JENSEN: Welcome to SAGE Crossroads, the premier online forum on the issues of human aging. These podcasts feature lively discussion with the experts on the ethical, political, economic, scientific, and societal implications of aging related science. Thank you for listening.

I'm joined now with Dr. Michelle Dipp. Dr. Dipp is a Senior Development Director at Sirtris Pharmaceuticals, a Glaxo Smith Kline company.

Dr. Dipp, what is the potential that pharmaceutical companies see in making drugs that target the symptoms of aging?

MICHELLE DIPP: That's a great question, thanks for asking. I think the potential lies in the various different therapeutic area opportunities, so what isn't a disease of aging? When I think about getting older, there are a lot of diseases that come along with that like diabetes, especially type 2 diabetes, cancer, inflammatory disorders, and so there are multiple different therapeutic areas that are associated with diseases of aging, so now that we've identified the genes that cause the aging process, those are called sirtuins, we can now work on compounds or drugs which treat various diseases of aging. Right now Sirtris is focused on a SIRT1 activator. SIRT1 is one of the genes that is known to cause the aging process, and so we know that if we can target that gene with the drug then we may be able to treat diseases like type 2 diabetes, cancer, and some of the inflammatory disorders.

KYLE JENSEN: Now do you think the discovery and work with sirtuins will change the pharmaceutical industry?

MICHELLE DIPP: That's a great question. I guess it depends on in what way. I do think it will change the pharmaceutical industry to the extent that it may be the case that we have one drug for multiple different types of diseases. So, wouldn't it be great is the same drug that treats type 2 diabetes also treats heart disease and inflammation, and maybe there is even the potential to prevent diseases, or prevent the progression of diseases, so as you know, patients with type 2 diabetes also get problems with sensation in their fingertips, and they also are at a greater risk for cardiovascular diseases like heart attacks and atherosclerosis or clogging of the arteries, so wouldn't it be great if you could take a compound or a drug which not only treats the diabetes but also slows the progression of diabetes.

KYLE JENSEN: Do you have any drugs in particular in development at this time that you feel will be able to do this?

MICHELLE DIPP: We do. We have one drug that's in development at Sirtris that's called SRT2104, and currently that is being tested in patients with type 2 diabetes.

We've already shown in animal models of diabetes that the drug is able to lower both glucose and insulin which is very promising given the fact that these animal models of type 2 diabetes tend to translate well in the clinic. We've also shown that in phase 1a safety studies in humans that the drug was found to be safe and well tolerated, and now what remains to be seen is if the drug actually works to lower glucose in patients with type 2 diabetes, and those studies are currently ongoing.

KYLE JENSEN: Now what would you consider a bigger burden in the development process, regulatory and policy issues or scientific issues?

MICHELLE DIPP: Oh, that's a tough one. I think that they are both challenges which are hard to overcome, but I would probably say the latter. In terms of scientific issues, if you have a drug that works, it's hard for the FDA to overlook that. So let's say our drug is found to lower glucose, and then we have as you say FDA or regulator hurdles, I think there is a way to go and speak with the FDA and do further studies and there is a way to overcome that challenge. However, if the drug actually just doesn't work, if the drug just doesn't lower glucose, you just don't have much to work with, so I think it's far better to have a regulatory challenge than it is to have a scientific challenge.

KYLE JENSEN: Now when do you predict that some of these challenges will be overcome and the first drugs to treat aging will make it to the market?

MICHELLE DIPP: Ah, I think at least another...at the very earliest another 5 years or so. As you could imagine these trials are very long trials and extensive studies, and right now we are currently in phase 2 studies, and those are the studies that determine whether or not the drug actually works, and then what has to happen is the drug has to go into what are called phase 3 trials. Those are the trials that are 3 to 5 years to test different dose levels and also test the drug on a wide number and different types of patients to make sure that it is safe in different patient populations.

KYLE JENSEN: Lastly, the audience of SAGE Crossroads is made up of scientists, policy makers, and curious consumers. If there is one last statement you would like to make to them about the development of drugs to target symptoms of aging, what would it be?

MICHELLE DIPP: I would say teamwork. I think it's really important for all of us to work together to create new drugs. We are facing different types of diseases and we're learning about new types of diseases every day, and so it's really important for us to respond to that with new drugs, and so we all need to work together to insure that we get those new drugs to market.

KYLE JENSEN: On behalf of SAGE Crossroads, I'm Kyle Jensen.