Steven Wright:

So, I wanted the best, I wanted the strongest immune system. So I pulled up all the stuff I had, like D and A and zinc and all this stuff. And I was like, "Oh, strong immune system. Right? Super strong." Very American, very Western. And as I got into the research about the immune system, which I'm not an immunologist, I'm not an expert on the immune system, but I did read a lot.

And what I started to realize was that you don't want the strongest immune system. You want the most effective or efficient, because if your immune system responds too aggressively, it actually kills you. And it thinks it's doing the right thing, but it actually ends up killing you through a cytokine storm or something else. And so it quickly became clear to me that you want the smartest immune system possible. You don't want the strongest.

If it needs to be strong, it pulls out of Jack hammer and jack hammers. If it needs to use a feather, it uses a feather. And so then I started to look at like, "Okay, how do you make a thing stronger?" And it's like, "Well, you don't want to just amplify sort of cracks." Right?

So if our immune system's out of whack, if it's supposed to be on a teeter totter and it's not balanced, but one side's out of whack, and then we make it stronger, we just make that thing get more out of whack.

And so that's when I came back to adaptive. Okay, we want to make something adaptive for the immune system and then what's out there. And so that's how we slowly, over many months and actually over a year, ended up on these three strains and beta glucans.

Michael Roesslein:

Before we get into the strains and how you chose them, what are beta glucans?

Steven Wright:

So beta glucans are basically a part of the cell of usually mushrooms or yeast. And so it's part of the cell wall. And that cell wall has been used for several decades, now, for immune benefit in animals and in humans.

The reason why it was included in this product, and the reason why I love it for gut stuff, is that it boosts secretory IgA, which secretory IgA is one of the first line defenders. I think of it as part of the innate immune system for the gut. And it helps block incoming toxins. It blocks incoming bacteria. It's sort of like the bulldog or guard dog of the small intestine.

And you can measure it on tests, so if you see it super highly elevated on a test marker, you can typically find a parasite or some sort of infection. And if you see it super low, you typically find a history of an infection that either didn't get cleared or just was recently cleared. And so it's a pretty cool marker that we can actually measure. And we know from a lot of research, both

supplement studies in humans and in animals, that it is very effective in helping our immune system.

Michael Roesslein:

We get a lot of questions about secretory IgA, actually, and how to raise it. A lot of people, on their lab tests, see it low, that are in our groups and in our circles. And I've seen a lot of fuzzy "this may raise it" claims from some things, but that's interesting, the beta glucans.

Steven Wright:

Yeah. Minimum 100 mg, and then studies go up to 500 mg, and it seems potentially like there's a dose response there, meaning the more you take, the more you get. But with the immune system, again, you never want to push it too hard in any one direction because we want smart and balanced, we don't want strong and misfiring.

Michael Roesslein:

Yeah. Yeah. And you mentioned that you have autoimmune in your circles, and I know that with autoimmune folks, there's probably some on this webinar, that taking things that "boost" or "strengthen" your immune system isn't always what is safe over there for those people. So driving things too high, not good.

So you mentioned three. There's three strains, specifically.

Steven Wright:

Yep.

Michael Roesslein:

There's probably a lot more than three strains that exist, that are used in paraprobiotics. So knowing you, you probably read every study ever on every single strain that's ever been used for paraprobiotics, but if that's not accurate, how did you choose the... What are the three and why did you choose them?

Steven Wright:

I mean, it did start with a very crazy, scientific review of as many paraprobiotic strains that I could find, and then a narrowing down of which ones were in research phases, versus which ones are commercially viable. And then from there, it was pared down to which ones actually had data in animals and in humans. And then what was the quality of the data in the humans, and what was the mechanism of action?

Because again, I was trying to build the best gut immune product to make a smarter, not necessarily stronger, but an adaptogenic, smarter product. And so I was looking for specific

things. Like you said, I wanted something that would help people with autoimmune conditions, which are typically Th2 dominant folks. So we need something that sort of helps either reduce that dominance or block it, or raise it up in some capacity, modulate it.

But also I wanted... My mom has really aggressive seasonal allergies, and I used to have pretty aggressive seasonal allergies back when I was a lot sicker. And so I wanted something that may help her as well. And so I was looking for things that modulated the Th1 side of the immune system, too.

So that's how they got selected. So the first one is Lactococcus lactis strain, and it's called Immuse, or LC-Plasma. So if you search Immuse, I-M-M-U-S-E, or LC-Plasma, you can usually find the studies. They have 14 trials in humans, and then I think another 14 or 16 in animals. So they're probably the most well researched of the three in humans. And they're one of the coolest, in that they've looked at everything from athletic performance to clearance of influenza in humans, to just generalized, all year round support of the immune system.

So this strain specifically, one of the things that... The reason why it's included is that it boosts these things called plasmacytoid dendritic cells or PDCs. And during my research, I found out that... If you don't know, there's two sides of the immune system. There's an innate and the adaptive. Innate is what's happening automatically from the cellular level, right away in response to anything. And adaptive is sort of antibodies and long term memory and more complexity.

And the innate has to talk to the adaptive, right? It has to... The communication flow, if it doesn't send enough information, or if it sends the wrong information, or if it's crying wolf all the time, the adaptive immune system's going to get very confused, annoyed, overworked. And part of how the crosstalk happens there, in the communication pathways, is through our dendritic cells. And the PDCs are actually sort of considered the leaders or the commanders of those dendritic cells and of that communication between the two sides.

And so that was one of the breakdowns that I identified as making a smarter immune system. Right? If you can't get your innate immune system to talk to your adaptive immune system and say, "Hey, I need some help," or, "Hey, this thing's bad," then you're always going to have an ineffective immune response.

And so something that specifically boosts PDCs in research in humans was a really cool find, and something that was really interesting. Plus it had those added studies around influenza and around athletic performance in humans, which was some of the gold standards I was looking for.

Michael Roesslein:

Sweet. That one's Immuse, right?

Steven Wright:

Yep.

Michael Roesslein:

That's the name of the raw material product of the strain? Yeah.

Steven Wright:

Yeah, yeah. It's the trademark name of the strain.

Michael Roesslein:

Yeah. I've seen that type of thing in a lot of the products we work with. There's one of those for CoQ10 that's the best kind of CoQ10. There's one, the Mag threonate we're using is the Magtein. So yeah, it's a trademarked raw material.

What are the other... And that all sounds pretty incredible. I'm going to slow it down. One, you mentioned Th1, Th2 quite a bit there. Do you want to elaborate? Is that the innate? Just because I know people might not know that term. So can you just explain those a little bit?

Steven Wright:

Yeah, sure. So that's on the adaptive side. So on the adaptive side, think B cells and T cells, and then...

Steven Wright:

... So on the adaptive side, think B cells and T cells. And then on the innate side, think natural killer cells, white blood cells, those types of things.

And so on the adaptive side, you have T cells and B cells. T cells, there's typically Th1 side and Th2 side. And in the research, we find a correlation between Th2 dominance in autoimmune conditions and Th1 dominance in allergy conditions, which is really weird, considering if you have an autoimmune condition, oftentimes, you have a lot of allergies too.

And so as I thought about this more, it, I think it's more about the hyperfluctuation between the two. It's more about the volatility of the balancing between the two. Because technically how it's supposed to work is you have T helper cells, and T helper cells are sort of like the referee or the balancing agent between the two sides of Th cells. And so T helper is supposed to come in. If the Th2 gets too aggressive, it pushes it down. It inhibits Th2 and pushes up Th1 and vice versa. So that's why a lot of people will be very excited when they learn like, hey, this product improves your T helper cells, or anything that involves T cell differentiation and making the body smarter with its T cells, they'll be very excited about that because you can help sort of modulate or balance those two sides, which is what we want. That's the smartest immune system we can have, is one that's very regulated, and if it has to get out of whack, it quickly gets back into order.

And so that's I think part of what we're struggling with inside of innate immunities with some of these conditions, is that you're locked into one pattern, and that's one of the misfires that I think we're all trying to solve for at some level.

Michael Roesslein:

Perfect. Thank you. So balanced and regulated much better for most people than strong and powerful. I like how you said you got all American on your immune system, but more is better. Stronger is better. Faster is better. But in a lot of the responses, especially with COVID, what a lot of people now are familiar with the term cytokine storm, and everyone became an immunologist overnight over the last couple years, but that term would've been known a couple years ago. And really that is just the body's innate immune system responding wildly to the infection without the regulation, and then a lot of the damage caused by that and other similar infections is by the immune systems like collateral damage in the initial attack.

So balance would be a lot better than stronger, because most of what they're recommending for that now is getting the immune system calmed down, the response calmed down, which you'd think with an infection, oh, I want as much attack as I can have, but it's really the right kind of attack and the right balance. So the other two strains, you want to tell us a little bit about those?

Steven Wright:

Yeah, sure. And I just want to double click on what you just said there, which is that the ultimate goal for our bodies, and I think the lens you can view your own symptoms through, is basically how regulated are you to your environment? So if in your environment, you look around, and other people don't have stuffy, watery eyes and they're not suffering from seasonal allergies, but you are, that means your body's not calibrated properly to your environment. Now, if everybody has it, like literally everybody, 90 plus percentile, then maybe this is a global issue for all bodies. Same thing goes for food sensitivities. And then the same thing goes for autoimmune conditions. If everybody's developing Hashimoto's, then it's probably not your body. But if it is just some subset set of people, then it's probably some part of your body and its inability to regulate with incoming information from the environment.

And so that's really what we're searching for, is just the right amount of pressure and just the right amount of backing off. Because as you said, there is collateral damage in every single war. And so we want just enough to get the job done and then we want to repair as soon as possible. It's very much analogous to a really healthy relationship with an intimate partner or something like that.

Michael Roesslein:

Yeah, that makes a lot of sense, to look around and make sure if it's you, then it's something going on in your immune system, where I've always been the lucky one that doesn't have the seasonal allergies and I'm walking in the room and somebody's dying and I'm okay. And so it's ... I was just taking some notes on your sharing there.

So we've got ... You mentioned food sensitivities. I actually want to stop there for a second because our audience has a lot of food sensitivity issues and that's kind of how they ended up in our world to begin with a lot of them. And so food sensitivities can be an overreaction of the immune system. And so have there been ... I don't know if any of the studies on any of the strains or any para probiotics showing a reduction in food sensitivities, or do you think that would be kind of like an indirect potential result from regulating the immune system?

Steven Wright:

So none of the strains have studied that specifically, but they have studied IgE antibodies, so the lactobacillus acidophilus strain L92, specifically looked at inhibition of Th2 antibodies, which are generally linked to food sensitivities being higher. That's typically what they're measuring on a food sensitivity test. And our customers, some subset of them, I don't know yet, I don't know if it's 20, 30, 40% of people taking the product so far, have reported in their reviews as well as into customer service, that they are seeing an improvement pretty rapidly in the reactions, the food reactions that they're having, whether it's histamine and they consider themselves histamine-dominant, or if they're just a general leaky gut food sensitivity person and they seem to be able to handle more foods or the foods that they used to have somewhat of a struggle with appear to be less struggle. And so I believe that's part of we're basically improving the environment that the food, the chaotic environment that food is digested in. We're sort of dampening and regulating that environment so that those signals don't just get fired off more intensely or more rapidly.

Michael Roesslein:

Yeah. Because if the body's not in ... If the gut and the body's not in a ... And there is no local. So if the gut puts ... If you have leaky gut and there's just like an inflammatory state in the gut, then you're in a chronically inflamed state in your body. There's no ... It doesn't work that way. So if you're in a chronically inflamed state where some of this is really, really heightened, the body's more reactive to the food. Is that what you're saying?

Steven Wright:

Yeah.

Michael Roesslein:

So then by having something kind of quell that and regulate that a little bit, then the food coming in the body doesn't ... Isn't already having a, I don't know, smash everything party when the food walks in the door.

Steven Wright:

Yeah. Like again, let's use analogies because the immune system and the gut are very hard to put your finger on. So let's say you're having ...

Michael Roesslein:

I'm failing at that, but trying to use metaphors and analogies because I know how complex the immunology gets.

Steven Wright:

Yeah. You're not failing at it. I mean, let's just go one step farther. Like let's say food ... Let's say you're having hay fever or whatever and you look outside and you're like, "Ah, there's that ragweed or whatever. There's that bush that I'm allergic to, that oleander or whatever." There's a few things you could do. One is you could close your windows and get a better filter that would help remove those potential toxins from coming into your body. This would be like going on elimination diet or cutting out the food that you're most sensitive to. But then when you walk outside to go get in your car, unfortunately you're exposed to it again. So then you could go as far to like just rip out all the stuff outside your home, just cut it all down. I'm getting some feedback on your end. I don't ... Or my end. I'm not sure who's ...

Michael Roesslein:

Hold on. I can mute myself and see if that helps.

Steven Wright:

So now you're not getting it from your yard and you've got these filters in your house, and then if you go take your dog for a walk, you realize that the rest of the neighborhood has it. And so in a way you're never going to get away from it, and so that's kind of a similar analogy to the food sensitivities. We don't necessarily want to just focus completely on removal of foods and removal of toxins because it's only one part of the equation. And instead we could focus more on the environment and how you handle that interaction with the food.

And so that's what I think helping make the right amount of IgE antibodies would be doing. If we make more T helper cells, then we make just the right amount of IgE antibodies. Because we don't want no ... We don't want zero production. We don't want a thousand. We want the right amount for that experience that day. And so that's what we're looking to do with any product that's going to be adaptive or make a smarter immune system.

Michael Roesslein:

Having more regulators, which is the T ... For those who got lost a little bit, the T cells, the T helper cells are the ones that regulate the immune response. So having increase of those is more regulatory, but I like that analogy better than my smash things party one. So nice work on that.

So you mentioned another one of the strains, the one that does have a modulatory effect on the IgE antibodies and studies. Which one was that, and what else does that one shown to do?

Steven Wright:

Yeah, so that's Lactobacillus acidophilus L92, and this one's actually been used for the longest. This one's been around in Japan for, like I said, I think 20 years, but definitely commercially viable for, for over 10. And so it's an acidophilus strain, but again, it's killed prematurely. And this specific 92 strain was chosen for its inhibition of IgE antibodies I think in mice. They were looking at like a hundred or a thousand strains just trying to figure out which ones work best on the immune system.

So they've also done studies around ... Specifically in humans for pay fever or atopic dermatitis as well as eczema in humans. And they've seen a reduction in the symptomology, so it doesn't treat these issues. This product, WholeMune doesn't treat any condition. It just supports the immune system to have a better response, but they did show a lessening in the symptomology regarding wheezing and running eyes and stuffy nose and all those types of things in the L92. So the majority of its benefit comes through the inhibition of the IgE antibodies and the support of more T helper cells.

Michael Roesslein:

Cool. And the third one?

Steven Wright:

So the third one is called lactobacillus plantarum L137. It's trademarked as Immuno-Lp20. So you can search either one of those. This one has like six studies in humans so far I think, and then another 10 or so in mice and rodents. This one is pretty cool because this is more on the Th1 side. So this is going to be helpful for type one interferon, which is important for viral inhibition of incoming viruses, but also it's important for ... It helps sort of boost the Th1 side, which again, people will be like, "Oh my gosh, I don't want to take it because I might be Th1 dominant." So far, we've given this product out to a lot of really sensitive folks who do have those concerns and we have not seen it exacerbate things that are out of regulation. It helps it bring it into regulation.

But it does ... The studies suggest that it helps reduce periodontal pocket disease, the pocket depth of like the really strong pockets. It may reduce inflammation from metabolic syndrome and then it has that viral type one interferon in humans. And so again, this goes back to the question of like, wait, what's going on? We're taking a dead probiotic and it might help reduce pocket depth for periodontal disease in humans. Like what? So it's a really cool thing.

Michael Roesslein:

And you're taking it orally, you're not swishing this around the mouth.

Steven Wright:

Right. It's in a capsule.