Jake 02:18
Thank you, Paul for taking the time. And joining me on the show today. And looking forward to this conversation. Your company Vita Dao has been on my radar for quite some time given that it's at the intersection of crypto and longevity, two of my main interests and certainly a lot of people on the podcast in both those areas. So the short of it is that you're the co founder of a company called molecule, which is basically a marketplace for drug discovery and development, as well as a co initiator of the company. I mentioned Vita Dow or the dowel rather. And so yeah, I guess that's the short version. But the best way to start the podcast where I usually do it is just ask guests to, to tell your story from as early as you're willing to start. And you know, any childhood stories or anything like that are sometimes interesting. But eventually we'll get to where you are today. So appreciate if you could just start start there. And yeah, thanks again for coming on the show.

Paul Kohlhaas 03:14
Yeah, of course. Um, yeah. First of all, Jake, thank you so much for the invitation. Really excited to be here today and chat with you. And yeah, I mean, you've already introduced me. So I'm Paul Koolhaas and the founder and CEO of a protocol called molecule. And I think one of the earliest use cases that we've seen emerge onto our protocol is a Dow called beta. And maybe just to correct something that you you, you said, Jake, you said a company called Vita. So VITA is really not a company. It's much rather like a distributed online community that is incorporated as a Dao, which is essentially a set of smart contracts on the Etherion blockchain. So if you think about how, like companies or even foundations associations were anything, any real like judicial or like legal entity is incorporated, you typically incorporated within a specific jurisdiction. And it's almost like, like installing a program in that country to then access like that country's operating system. And, and so that's how commerce works today. And so what were three in that sense, renewables is enables us to install new organizational models, but on a global in a global financial and economic ecosystem rather than incorporating them in national jurisdictions and so that that global access enables people from all All over the world to join these organizations. Yeah, just wanted to I just wanted to add that. But yeah, so really good to be here, guys.

Thanks. Thanks for Thanks for joining and a couple of things about myself. So I grew up in Switzerland, very, like chilled childhood grew up in a town of 30 40,000 people amazing river, just across where I live, like, spent a lot of time snorkeling as a kid. And then like, some family members that I had, I remember like growing up and then fall, and no, we're being prescribed. I think ADHD medication and then antidepressant, and I just remember that it had a really like, negative effect on them. And it was really around the time when I think ADHD medications like Ritalin, Adderall was spreading more widely across Europe. Because Europe was actually very different than the US like, like, like, ADHD was never a thing in Europe. But it was slowly like being like, made increasingly a thing. And so that's one side that I saw. And then increasingly, as I like, in my teams, I got more and more interested in things like we like spring skating, like whatever you do as a teenager. But then also started looking at certain like online communities. And the first like, started playing World of Warcraft, pretty early on, and we like got into, like Reddit community. And then I think through that got into, at some point got into like, like, essentially, like tripper poor communities. So people that were describing certain like psychedelic experiences that they've had, and through that salmon extremely like, like, a person that rabbit holes, extremely quirky, and just kind of like giant into something and then goes into the next to like, understand it from often superficial level, but going like the quite quickly. And then I found these research chemical community, they're essentially investigating compounds, unscheduled substances, like late 2000s, that had been developed by Alexander Shogun in 80s, and 90s. So Alexander Shogun is the original inventor of MDMA. And mania on went on to discover most novel, let's say, designers, psychedelics that we know today, which is derivatives of phenethylamines, which are very masculine, or tryptamine, which naturally occur in our body as like DMT, for example. And but I found this extremely fascinating. And then I looked at other communities, and these communities were essentially all just like ordering, research chemical, and then saying, cool, I took the substance, it's never really been tested. Even like, in many cases, they will even use substances that came off the Shogun, and essentially saying, I took this amount, and these were the effects. And this was the duration. And this is our thought. And then often they were, they would like post three or four or five reports. And

quickly, you get hundreds, hundreds of people posting like reports about different substances that they tried, in many cases in just in a recreational setting, but in some cases, also in a therapeutic setting. And it's essentially those people were experimenting or curious about these things, one out of pure curiosity, but also in many cases, because they didn't have access to, to those types of experiences. And as I went deeper, I also realized, Hey, there, there was also insulin communities in this in this group, so like diabetics that essentially couldn't afford couldn't afford insulin, and were looking for alternative treatment methodologies. were ordering stuff from China, where these other research chemicals also came from, to get to test alternatives to insulin that they can afford, as well as cancer patient communities. They're essentially saying, hey, this, this cancer therapeutic that I need costs me let's say, over $100,000 a year in the US, I can't afford that. And here's here's an analogue, which isn't exactly the prescribed medication that has been tested and validated, but it's sufficiently close and apparently safe for me to try out. And in many cases, these animals have also just been developed, like, has never been tested in human. And I found that extremely fascinating because most of these people did that pure necessity of need because they couldn't access what they wanted, whether it was a recreational experience or a life saving life saving medicine. And in through that, then more and more sort of looking at how does the macro economic promises tomorrow and I still fairly young and so like questioning these like the early days of the US opiate crisis. And already back then it was like painfully obvious that this would become a huge problem. I think the inventor of fentanyl and car fentanyl, I think multiple times testified in front of us Congress in I think early 2000s, like even late 90s saying essentially that this stuff was going to become a massive problem. And they should stop pharma companies from ever taking it to market. But okay, fast forward. So this is like the OP press is beginning to develop. And I'm just there asked myself, okay, on the one side, here's these online research communities essentially doing open source drug development on unscheduled research chemicals that they can access through the internet. And it's kind of working, they're saying this one is working, this one is not working, I took it and guys, I had really bad side effects don't take it. And on the other side, you have this giant from a suitable complex. That is one of those systems that is like,

it's, it's like too big to change. That's what people think. But it's actually not and like, and it's not that there's like, there's people in those companies that are like, let's really try and like screw over patients, or like, let's really try and do something bad is just that the system essentially, especially through Wall Street forces, those companies to behave in a certain way that ultimately really hurts patients and the healthcare system. And go back, I'm thinking about this. And I'm like, Okay, there's something really weird here. And I got on and I studied economics in Switzerland, studying a lot of game theory and got into like, like biotech stock trading. And then a friend of mine, who was also trading, he started an internship at a company called Bitcoin Swiss, which is one of the first Bitcoin brokers in Europe, and then fell down that rabbit hole. And because I spent a lot of time in these, like online communities, I found it really fascinating how essentially, crypto development was progressing. Which followed a full open source ethos, it's like, so imagine, for example, if bitcoin had been patented, like it, it would have never worked, and no one would have used it and half of the crypto ecosystem or like, like 99% of it wouldn't exist. But that's how we essentially, we interact with a lot of innovation today. And so so like every day, then I think Batman was fundamentally broken, like, like the patents, like patenting things to ensure that companies can work like stakeholders can recoup r&d investments is fundamentally I think, the wrong approach to innovation. If you want to develop new things, you want them to be accessible and open, you want the data to be critically reviewed, which is the entire point of having peer review and science. And just to finish the story, and then essentially fell down the crypto rabbit hole, did that for a while I spent a lot of time working on on on data marketplaces, and I first digital identity and then on data marketplaces, the core question is always like, how do we get? How can we? How can we enable users to share their their data. And enterprises should share their data and then essentially enable AI researchers, people that want to train certain machine learning model to access that data, and then make it productive. And if you're looking at those token models, it's like 2017 18, I, at some point, had this aha moment where I was like, Okay, actually a lot of these like design principles to be applied to pharma and biotech. And began reimagining biotech and pharma as a public marketplace. That was built more around like the tokenization of

assets coupled with the power of open source and path forward that I then definitely I left my my job at consensus and mid 2018. At Benson time, I just bootstrapping another company that that rival a previously and then essentially went full on into into this idea that yeah, that captivated me. Also met my co founder at tido. Huge shout out to him.

Jake 14:34
Yeah. Right. So that was, first of all, thanks for for sharing the long version of the story. I always like to hear that and sounds like there's a couple of interesting things from early on in your life that helped drive you to, to where you are today from seeing friends and family starting to take like ADHD anti depression, pills and whatnot to You know, getting involved with those communities online doing some experimentation, various types of drugs. So it sort of adds up and and then going into crypto and realizing that that could be the solution, or at least that could contain the solution to the problem that we currently have, with the way that drugs are discovered and coming to market and everything like that. You know, it's not surprising, I guess what, what you're working on it and passionate about today, I want to double down a little bit on what you had said before, before we talk about molecule and how this model, you know, is proposes to potentially be the solution to a current problem that we have, I want to sort of dig deep a little bit on the solution. You talked about how the patent model from your perspective is broken. Basically ensuring that these billion dollars that go into the development of a given drug are recouped by the company by giving them a patent, that doesn't really work that doesn't really foster or accelerate innovation in any way from your perspective, and would like to hear sort of why that model is broken. And I don't know, maybe you could speak to like, why we even have that. Like, why that is the status quo and why we need to change it if we want to sort of see quicker progression of I think, in the long run, you know, people being able to access the drugs that they need for less expensive prices and live healthier lives.

16:34
Yeah, absolutely. So some of your server that so I think the first patent was issued in I think, at the dawn of the 18th century, so they can 1717 90 Something in the US on I think, potash which is a specific

type of fertilizer, but it's an essence, I mean, what so what patents do is they ensure that so if I, for example, say cool, I need to invest the $50,000 to prove my thesis that like this particular light bulb could work. And but if, like, once I prove that it works, how can I ensure that no one just copies it? Because if I think that'd be will copy it, then I won't, like invest my own money to prime inventor. And, yeah, because anyone could copy that was essentially like the fundamental fear of being copied, like investing a bunch of time and money and then being copied. So the state comes along and says, Okay, well, well, that's innovation is important. And we understand that. And, and, and that's completely fair, it's like fair for companies to say, hey, we're going to invest 100 million into like building a new rocket engine, and then we'd at least like to have like, exclusive rights on that, because it costs a lot to build it. So So that's completely fair. I think open open source software will really changed the game around that, because because it proved that like, actually, collective open collaboration can be much more effective than then closed, close collaboration and closed, closed innovation. And if you think there's a bit further, so science, should fundamentally be open. There's a huge movement, I think, since the late 90s, early 2000s, around open science, there's so much replication in the sciences, because open science doesn't exist. So like if you run an experiment on, for example, on a compound that is patented, and you don't share that, I'll have to do the same thing again. So you could find out that it doesn't work, but because it's patented, you also would love to share your study. So and then I come along to you yesterday, I'm like, Oh, this looks interesting. Let me test it and do the same thing again. And it's also due to that it's also quite hard to often verify the data specifically in the pharma industry that comes out around certain compounds. So there's a there's a big group usability problem in the biotech and pharma industry. So if I'm, let's say, I'm a biotech and we are developing a compound, let's say a cancer therapeutic, and we've run a couple of a couple of trials or a couple of experiments. And actually, let's say we ran 100 experiments or like 100 trials, and only two of them were positive, we're only going to show you like and let's say you're a bigger pharma company wanting to buy the compound because you want to expand your cancer volume. And this is perfect. And we will only show you the two studies that work. We have no obligation to show you the 98 That did not work. And for

the other side, then it's often quite hard to reproduce the data. And then often those deals get made based on like, human decision. It's like we we've been working on this for six months, I'm sure It's gonna work. We can't reproduce it right now. But like, let's, let's move ahead on. And so and then the biggest cost in pharma actually come from compounds like drugs that fail in stage two or stage three. And so now if you're a cancer patient, and you're, there's a certain like, there's a certain subset of drugs that you can take, you're essentially also being priced on all of the drugs that failed in the pipeline. So if one out of 10 drugs makes it, all of the failed drugs get priced into the drug that made it right to recoup the cost. And so ultimately, what you're really doing through the system is like really hurting patients. But going back to the patent system in the biotech, so essentially, there's a principal agent dilemma with IP monopolies. And that is really harmful to the industry. So first of all, if you have single organizations, be they a university or a biotech company, or a large pharma, they only have incentive to share positive data. The next thing is, if you're if you want to work on that acid, like they can sue you. So if you're a researcher that says, Cool, we're like exploring a specific disease area. Oh, I see. There's some really interesting molecules that have been discovered, oh, but most of them are patented by big pharma. Okay, I can't touch them. And those big pharma companies might not even be doing anything with them. They could be patented, and just sitting there, but you can't work on them anymore. And moreover, if they never do anything with them, the patent expires, then they become a generic that was never developed. So these these compounds could actually be highly effective. Yeah. If you look at the other extreme, so there's a really interesting organization called Open Source pharma, or open source pharma Foundation, they started out and I think it hasn't 1213 originally funded by Indian Foundation, because they were focusing on developing open source alternatives for malaria. I think UCLA was involved a couple of people from from Harvard Medical School, but super cool initiative. But so they essentially said, Screw patents, we're going to put everything into GitHub repositories. And which is pretty cool, because now you can have researchers across the world essentially being like, cool, I've, I've like, I've thought of this compound, which could potentially work or like we used our machine learning algorithm to develop, like, like this target. And then they add all of that into

that GitHub repo. But what they've realized over time, even if they develop like valuable compounds, often no one's going to fund this, no one is going to fund follow on study. Because everyone in the industry knows that there is currently no, there's no business model, like you will, no one will fund a stage two or stage three trial, maybe stage one, but stage two, stage three, you need such high amount that you need at least a commercial partner to fund it. And that's actually a shame, because once it would be approved, once you have the data from those trials, you could actually create generics on those drugs. I think there's a few cases where that does work. But essentially, that's the problem they ran into so. So there's these two extremes on the one side, like patents, create extreme research monopolies and disincentivize collaboration and minimize open science. On the other side, if you want it to go open source. So Jay, let's say for example, you discovered a specific molecule, and you wrote a blog about it. And you said, I just discovered this, you know, what guys, I think, could do this and this and this. And then it's actually assumed that it will be hyper efficient. And during that, the moment that you publish that blog post, it becomes unpatentable, because of our prior art, and that will never go to market. Even if if it worked. So that's what's really fundamentally wrong with the patent system. If that makes sense.

Jake 24:05
Yeah, no, that made a lot of sense. I think I've got my arms around the problem, hopefully people listening do as well. So the patent system for a number of reasons doesn't work. It sort of I guess it the intention is to ensure that there will be no competition for whoever has the patent so that they can capture the profits. But competition while compromising for someone who wants to capture all the profits as like a monopoly is really healthy and useful, I think most would agree for pushing the pace of innovation and allowing a lot of different people to take a lot of different angles on something that they want to engage with and experiment with and try to make a business around. So for that, and other reasons, such as you just mentioned, it doesn't work molecule, which you've started to solve this problem, proposes that there's a new way to do all of this. You guys are doing something really interesting with IP. You've got these IP, NF T's. And you hit a great milestone in August. But I think even more fundamentally, before we get to the details on those things, why does molecule and the sort

of way that you've specked out your vision with this project, why does that solve the problem we're talking about here?

25:32
Yeah, really, really? Good question. So fundamentally, it comes down to how, like how patents can be created and access and then shared and how they they go through this pipeline. So if you think about drug development as a really long pipeline, and I mean, I started looking at this problem and went into it so deep that I quickly decided not to look at any other areas of like IP or patenting. Because you can get into copyrights, you can get into different types of patents. But so let's look, we're only focusing on biotech and pharma. And just maybe just as a caveat, so there's so many other things that are completely wrong with the patenting system from like, from like patent trolling to price gouging to like, you could have one company, I mean, you had Martin Shkreli case where essentially someone can buy a patent and then just hike up the price of a drug, like an infinite, because they can't like for right insured by the state. And maybe the last thing for your viewers go onto the USPTO. US Yes, USPTO website. And it looks like it was built in the early 2000s. And I don't think they there's a plan to update it. And that's the the Premier database and access layer to access like innovation secured by the US government. Okay, so moving on. So how are we changing that? So first, we we worked with a couple of people actually from the like they were already founded in the Linux Foundation, because that model essentially really, like early on inspired us and but software is very different than I think I said that are a very different environment. And changing like, Pac Man innovation model from a regulatory perspective will take decades. And so essentially, what we said is I The problem is not that like that patents are bad. The problem is that companies are great monopolies are on patent by owning. And so if you move patents out of or just IP in general, so the first thing that we say is actually you don't need patents, you only need to protect the IP. And patents are only like an insurance by the US government government that they will like that you can come after whoever infringes on your IP, if you don't have a risk of infringement, like you don't actually need a patent. First Person. Second thing is that patents aren't bad. It's the owners of patents that are often bad or that engage in not not actually bad, but that engage in behavior that

is harmful. By again, disincentivizing collaboration by burning innovation, there's so much IP that gets deliberately shelled and, okay, okay, so moving moving on from that. What we essentially thought is like, what if you fractionalized ownership? And what if you attach IP to a digitally native carrier, like an NFT? And actually, I started writing about this in I think, like in mid 2018, if you go back, you'll find articles from me, and you saying, Okay, guys, we can attach JPEGs or crypto kitties to NF T's. But what if we attach micro structures of molecules daxue is the same thing. So micro structure is typically used in a composition of matter patent to describe like an novel molecule that someone has discovered. And then, and then I said, and then what if you fractionalize ownership, and so fractionalized ownership works similar in the way that you can own equity in a company or actually like rights in in voting rights in an association or a collective work cooperative. So essentially, you make First you make IP digitally native, so that it can, it can, it can be transacted in very easily. And actually, maybe to add another layer here. So the current way that IP works makes it extremely hard for like researchers to, to engage in what they're building early on or to protect it. So typically, like patenting cost upwards of 10,000 $50,000, and it's a very long, very, like, cumbersome process, where you're engaging with with processes that were developed in the 70s and 80s. There's very little innovation and that's a huge battle. Innovation because then either you patent through an organization that you either have to create, or it's your university, for example, or you create a company that can essentially how's the IP and so essentially, what we developed with the IPF t is, is an entirely new way for organizations, individuals, really anyone to house IP, and then to structure it, and to access funding to find collaborators around the IP, or to like to open it up for others to analyze it. So in that sense, so what the INFP is, it's essentially, it takes real world legal agreements. So like a, like a sub licensing contract or licensing agreement. So the same way as if, let's say, Pfizer goes to a large a US university and says, Guys, we saw your researcher, Tom is working on this really interesting project, we've spoken to him and we'd really like to support his work, can we can we sponsor his research activity called a sponsored research agreement. And then the like the farmer with a biotech funds, the research and in return receives the data and the IP that may result, there's no patents, there's nothing, it's just

essentially a clear agreement between the two party. And it's also clear to the researcher that like pharma, like, those companies could actually do something with the research. And so, so that's one example. And so what we've done is, in essence, take that this same type of agreement, and essentially attach that to an NFT. We're now the purchaser of an IP NF T, is essentially entering into that legal agreement, but fully automated. And then the researcher receives the funding through the purchase of the NFT. And in return, the researcher stuff starts uploading all the raw data that is generated, which is often like the real, like the real valuable IP into a secure data storage that runs on top of filecoin, that only the NFT holder or the researcher or whoever the NFT holder gives access to can access. So it's almost like a decentralized, super secure Google Drive that's attached to the NFT. And so this is really cool, because you can now and now the NFT owner could immediately transfer the full IP rights and the data to any other party. Any party could come along and be like, Hey, we're really interested in this research, can we can we look at it and the owner could be okay, we all grant you access, but you have to pay me $2,000 To accident, or I'll grant you access, because I think you guys could be a potential buyer. All of that access is traced. So there's actually no no IP leakage to happen. It's, it's in the same sense is like if one company asked another company to look at one of their assets, and assigns multiple MBAs to look them, if they contravene them. Yeah, you have a right to prosecute them. So it's a mix actually, like using the current system and then using the word three system, but essentially enabling researchers to to make their work like much more open and shareable and come back to work. And so what we're building is really a marketplace for researchers across the globe and biotechs to upload early stage research, could be get could be pre IP, it could be patented research, like it doesn't actually matter that much. And then that's coupled with that data storage solution. And then what we're building on the other side are essentially, because we also realize this is quite early to build a market around, maybe biotechs aren't ready, and pharma certainly isn't ready for this. And but patients are ready and enthusiasts across the world one to enable decentralized drug development. And so we like an early community forum, in essence around like longevity research. And we found that really interesting, and my co founders that has as deep experience in that space. And so

we helped launch this organization called leader now, which is an essence of first example of how Dows can essentially make it productive. So we did entrepreneur fund research and acquire research in the full rights to on chain and then own it in a similar way that like Flamingo Africa boards. Yeah, which is pretty powerful. So now you have a Dow that's run by hundreds of people across the internet, now funding scientific research at universities, and owning the IP and then deciding what to do with it.

Jake 34:29
So I understand that Vita Dao basically acquired the first IP NFT from molecule back in August, so that must have been a pretty nice milestone to get past. And if I'm thinking about it correctly, basically, molecule is the marketplace. And the supply is basically researchers who have IP that they're willing to basically share for money. And then where's the money coming from? You know, it's maybe not going to be farmers yet. It's maybe not going to be biotech companies yet. But the earliest demand might come from these patient collectives. And one of them you formed with Vita Dao, which is people interested in specifically longevity. But you can imagine another, quote unquote patient collective forming that's really interested in psychedelics, or, you know, cancer or whatever Alzheimer's, any disease that there's a passionate group of people trying to solve with some money to spend against it. These dollars could start to form. Do you envision other types of organizations? Like do you think the demand side is going to be mostly Dows? Or do you eventually want to get some of the more traditional players with deep pockets into the mix? I know there's plenty of money going around and crypto, that maybe the Dallas could be sufficient to get this off the ground, but curious to see where you see sort of the relationship between these two organizations that you're helping lead how you see that developing over time?

Paul Kohlhaas 36:09
Yeah, really, really good question. Um, I mean, so fundamentally, I think we want to make the the entire system industry more efficient. And we're like an agnostic marketplace. And I think it'll be very hard for like these early stage research downs, they're essentially accelerating the process from like, like, let's say bench to bedside,

or just getting more research out of academia, ensuring that universities get more funding, and ensuring that early stage biotechs, that are developing super cool stuff, get more attention, I think will be very hard in the next couple of years for like, a Dao, like an onsen entity to coordinate a like an FDA approved clinical trial. But actually, so if so many, many large pharma companies, they essentially behave like investment banks. So they make extreme risk calculations whether to invest hundreds of millions of dollars into a specific clinical trial. And they have the liquidity to do that, and nobody else in the market really has the liquidity to do that. Like, there's no companies that can just fund let's say, five to 10, ongoing large scale clinical trials. And it's going to be very hard for Dow to move into that liquidity. But I actually think it should be possible within maybe three to four years. So essentially, a Dow would need to have enough capital, we could say, Cool, we're gonna fund this stage three trial to bring a director market, it's gonna cost us like, maybe a fifth of our treasury, because you don't want to put all your eggs in one basket. But so that's what it would take. And I actually think it's highly feasible, because the core problem is a question of, well, it's two things, actually, maybe three, it's political ties into like getting your trial approved, then it's, it's the liquidity, so actually just paying for it. And then it's coordinating the trial. Yeah, I think someone wants me they were working on a trial. And I did like, print out 300 pages in a specific kind of paper. And then I like, it's, the system is so manual, and so ancient, in many ways. And actually, within that, I think there's a different path. If if open source, drug development becomes more of a thing where you like, Okay, well, this isn't approved by the FDA or like, like EMA in Europe, but I know that it works, because everyone online is saying that it works. And I can afford this stuff that is approved. And this seems to work. And it's like a fraction of the price. So if the fundamental goal is to help people and to like, like yet, serve patients, and I actually think open source models in can can also emerge, like, yeah, emerge along the process. But I see that very, very left, yet very left side, very left side thinking at the moment, I think what many artists each dog will focus on is accelerating, like early stage, compound development. And like, as I said earlier, like bring those those comments out of academia, and then funding killer experiments. And if those killer experiments prove successful, like the 1000, need to find

licensing party, that can then take over the IP and, like, really bring it to patients. So so if you did, for example, it's developing like relationship with multiple, like the TV series, or C Series biotechs, that are really interested to source IP through that network. Because they see many PIs and researchers that they would like to work with, join this more open system and bring in their IP and so the biotech stanzaic Cool. Well, this works for us if we can, can we please look at it later on? Because we would like to take it and then continue developing it. And so in that sense, then I think many will be early on focus on freaking, like accelerating preclinical research. and thus also be like much more removed, let's say from the regulatory hurdles that come once you move into clinical trials.

Jake 40:11
Right, so So Vita DAB basically goes in at the early stage like pre preclinical, and, and buys the the IP on molecule. And you know, the way that they go about doing that and agreeing to do that, I guess they have a you guys have on chain voting with this Vita token. So it's like truly a decentralized organization. And you go and buy the IP. And I guess the bet is that if you fund enough, very early stage preclinical stuff, you'll have enough success cases where then you're able to build these relationships on the other side, and turn around that IP NF T to one of these biotechs. And, you know, that money then goes into the treasury for the doubt to go ahead and fund future preclinical projects, and the thing could take off from there. Is that is that sort of the right perspective on what the objective is?

Paul Kohlhaas 41:10
Yeah, yeah, that's completely the right, the right perspective. I think, at least for now, I'd like in terms of what the capabilities are, but, I mean, there's nothing actually that would stop you that on a future, for example, to decide to try to bring drugs to market by itself. Yeah, I also think there's like, I mean, so for me, I think one of the really like, one of the really cool things about Vietnam is that it really democratizes access and ownership of that early stage research. So if, for example, we had, like discovered a new breakthrough treatment, then its members could think really long and really hard about how that that treatment should be commercialized. Whereas many longevity companies, today's today are really funded by

like, very elite VCs, or, like billionaires. And so that means if those biotech companies bring something to market, again, it would be highly monopolized. If you have a breakthrough longevity treatment, you could make that extremely expensive, and just not grant access to anyone except for like, a select few. Because you can't and, and you should, in a way, if you think of competitiveness, because like if you if you're competing for like, power in like in a global system, you want certain people maybe to get older, but so certain people also not but but not imagine if increasingly dictators across the globe, and like CEOs of powerful tech companies get older and older, while the rest of the population doesn't. And what that also means is, you're changing the laws around like distribution, the redistribution of wealth, when kind of like Empire or like, let's say, people die, which I think in the long run can have kind of a big impact. And so actually, democratizing access to, to longevity drugs could mean that anyone could live longer. Not just a select few.

Jake 43:16
Yeah. Yeah, I mean, I am hugely hopeful about longevity research, and what we could see within our lifetimes. And I just started took it for granted, I guess, that if and when something came about that was meaningful, we would sort of do our best to distribute that around sort of like what you've seen with like, you know, COVID vaccines, it's like pretty quick for everyone, or, you know, a material number of people, at least in developed countries, I guess, to go and get access to it, because it's just seen as like a basic human right, but it's not necessarily the case. So if you have a broader base that's funding the thing and has control over the IP seems natural, that would lend itself towards democratizing access to whatever the innovation is, or whatever the drug might be, as well. So yeah, I see. We're coming up on time here. This is one of those ones that could go at least another hour or so but but I think we're gonna have to cut it here. I respect your time and don't want to go too far over. In closing any comments, just based on stuff that we weren't able to get to? You know, where Vita dal and moleculer are going, maybe next milestones you sort of have in mind. And then lastly, where can people go whether it's Twitter or the websites, Discord, whatnot to keep pace with all this stuff and see what you're up to?

Paul Kohlhaas 44:45
Yeah, of course. First of all, thank you so much in Jake for inviting me to show absolute pleasure. Apologies for my long winded explanations. I think there's so many directions that you can do that. You can also take this

Jake 44:57
topic. Yeah, no. It makes me My job easy, so I appreciate it.

Paul Kohlhaas 45:03
And so essentially, we, I think we're at a point where we're going into like, just like get global growth and also decentralized decentralization of our organization. We're currently helping, like, form an early community around another therapeutic area, which is actually in psychedelics and mental health, called sideout, which is still very early stages. But if any of you are keen to check that out, please join those in early discord community. And then we're also helping set them up in set set up these communities and other therapeutic areas. I specifically in rare, rare disease, actually. And if you know anyone that is looking into like, forming a, like web three, native patient community, please feel free to reach out. It's, it's really hard. It's not just a discord and multisig, there's so much that comes into play. And then the other element is obviously is yeah, if you guys know, like researchers, universities that would be interested in this new type of funding model. Please feel free to reach out, we're also rapidly growing at him in our organization, super keen to speak to get to people that have worked in the pharma biotech space with a research background. We're creating like an ambassador program, essentially, for for people to help onboard IP and onboard researchers. If you're in web three, come check it out platform, we're launching a couple of a couple of projects till the end of this year. And then really making the platform more public is it's still currently like a little bit in like a private mode or like interviewing on. And, yeah, I think this is this could be the beginning for us of like a complete new, decentralized ecosystem around biotech. And that's something that I'm really excited about, because I think it will, they will generate much better. Much better therapeutics, medicine and innovation for humans. Because we can quickly see what works and what not, and we won't have companies like

in our system, we wouldn't have companies that are that incentivized to generate revenue, but you create very strong incentives around like patients to see impact, and to communicate what works and what doesn't. Yeah. And anyone that that is keen to join us on that journey where we're very open community, we're also starting to actually decentralized the base layer protocol. thinking a lot about governance rights. Yeah.

Jake 47:40
Awesome. Well, thanks, Paul. Again, and I know it's kind of late in Europe. So we'll let you go. But looking forward to keeping in touch and appreciate all the work you're doing to move science forward more generally, but specifically longevity, hoping for some, some great progress there over the next years and decades to come.

Paul Kohlhaas 47:59
Yeah, likewise. Yeah. Jake, thank you so much.