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What, what we are talking about, just like in the field of acquire the immunity, as you just explained, you explained you have naturally acquired antibodies and as some people will know, you also have the cellular immunity, right? So like T-cells for example, acquired immunity. Well, you have exactly the same compartments in the innate immune system. The innate immune system is of course more than all this, but you have, first of all, the antibodies, which we call the innate antibodies, and you have also the innate or the natural cellular components, which are the NK cells, for example, the natural killer cells. So it's not like you have no other components in these systems. But if we talk about the guys who are doing the job who are cleaning up stuff, either neutralizing the virus or killing fibers, infected cells, we call about effectors. And that effect, this could be antibodies or cells. Of course, that kills cytolytic cells. Also in case cells can kill, like T cells can kill

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Cytolytic means till like the ability to kill cytotoxic

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Cyto cytolytic killer cells.

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And so one of the confusions that's been happening is that not all antibodies and not all cells are cytolytic or cytotoxic, some just bind some, just do other things, but they don't actually kill the virus and then sterilize it and get rid of it. Is that correct?

[\(01:31\):](#)

Yeah, that is one thing. The other thing that is also important to understand, and I think, uh, it adds value to this discussion is that if you have antibodies and now I'm talking boats, whether these are naturally acquired antibodies or innate antibodies, sometimes they are not strong enough to really do their job to neutralize, for example, the virus, but they can still buy into the virus by doing that, by doing that, they can facilitate the entry of that virus in antigen presenting cells that then cut the virus in bits and pieces so that the different pieces can be properly presented to the T-cells for example, or to the NK cells. Right. And that is how each of these compartments, the innate and the acquired do have an antibody part, but also a cellular part that boats can either neutralize free floating virus or virus that is inside the cell. That is what the killer cells do. They kill themselves, they kill virus infected cells. Right.

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See, I see what you're saying. So you have viruses that are just floating between the cells, still trying to get to the cell, and then you have the viruses that are already in the cells. Those need different functions to neutralize. That makes perfect sense. Okay.

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Okay. And that is, that is the difference between prevention of infection and prevention of disease. Once the virus is in the cell, I mean, it's already destroying the cell, right? That is what predisposes you to disease. So if you then have killer cells that can kill those virus infected cells, they will make sure you recover from the disease. Whereas if you have functional antibodies that can readily neutralize the

virus, when it comes in, you can prevent infection of the cell in the first place. And you're not going to get a disease.