# Super Genius DNA #Chapter 61: The First Product (2) - Read Super Genius DNA Chapter 61: The First Product (2)

*Chapter 61: The First Product (2)*

Young-Joon was about to take a sip of his coffee, but he raised his head to look at Nicholas Kim.

“The cartels? I haven’t heard anything in particular,” Young-Joon said.

“Something is off, Doctor Ryu. The work you are doing right now is heavily threatening the livelihood of those companies. A-Gen included, but we’re affiliated with you, so... Anyway, you haven’t received any calls from those transnational pharmaceutical companies?”

“They did contact me to do business together at the IUBMB.”

“What did you say?”

“That I would consider it.”

“Did they contact you after that?”

“Roche and Pfizer contacted me. We’re going to have a business meeting soon, and I haven’t heard from Schumatix yet.”

Nicholas tapped his lip, then said hesitantly, “I recently heard a few things about Schumatix.”

“What is it?”

“Schumatix is making a next-generation hospital in India.”

“It’s the first I’m hearing of this.”

“To be exact, Schumatix has a hospital they sponsored in India, and they are going to renovate the facilities to make a next-generation hospital.”

“Why are they not doing that in Switzerland or the U.S., where they have their headquarters, but in India?”

“... That’s the part that bugs me, Doctor Ryu. The glaucoma treatment is being commercialized soon, right?”

“Yes.”

“You’re making it into a kit, right?”

“There are two products: one is a stem cell and optic nerve production service done at A-Bio, and the other is a stem cell production kit that can make it.”

“Can you tell me a little bit more about the kit?”

“To use the glaucoma treatment, you have to extract the patient’s somatic cells and put a few types of genes into it using a virus. You also have to add a few genes when you differentiate it into optic nerves,” Young-Joon explained. “It’s easier than you think if you have the virus, but making the virus is quite fussy. So, we are going to make the virus and sell it as a stem cell creation kit. The somatic cell will differentiate automatically if you put a single drop of the virus solution in it.”

“Hm.”

“We are only going to supply the product to verified biological experiment agencies. After creating stem cells and optic nerves, we are going to verify them with a technology like FACS and use it to treat patients at hospitals associated with them.”

“You’re saying that you are going to link biological experiment agencies all around the world with their local hospitals because there aren’t a lot of hospitals that have technicians to carry out the optic nerve differentiation, right? And you’re going to supply the kits to make the differentiation more convenient?”

“Yes.”

“It’s a good idea, but don’t do it,” Nicholas said. “Let’s only make stem cells and optic nerves under your supervision and only use the treatment at A-Bio’s hospital. There will definitely be people from pharmaceutical cartels that challenge the safety of that kit.”

“Our research shows that the kit is completely safe. And we used a lot of stem cells and optic nerve cells produced by the kits in the clinical trial. And if there

really is a safety problem that wasn't identified in the clinical trial, it would be right to dispose of the product. If that happens, I will dispose of all of it," Young-Joon said.

"That's not what I am saying, Doctor Ryu. You know what kind of people the pharmaceutical cartels are, don't you?" Nicholas said like he was frustrated. "They might sabotage you even worse than anything you can imagine. They might test the kit, artificially produce negative results, then attack you with it."

"They could," Young-Joon said.

"And you are still going to use that kit? Then, what if you only do it in places within your scope for now? You can take your time supplying the product to the world with the kits, right?"

Young-Joon took a sip of his coffee. There was a moment of silence. Nicholas was staring at Young-Joon with worry in his eyes.

"Thank you for your consideration, but Mr. CTO..." Young-Joon said. "My enemy is not Schumatix, Roche, or Pfizer."

"..."

"The enemy that I have been fighting against since I was an undergraduate student who didn't know much, even before joining A-Gen and going into graduate school, was disease itself."

"Phew..."

"If I take a step back because I'm afraid of the pharmaceutical company's sabotage and limit this new technology that I can supply worldwide to Korea and A-Bio, it will reduce the risk to my company," Young-Joon said. "But it's not like that risk goes away.

"Patients from all over the world will share that risk together. A-Bio's hospital in Korea. If we limit treatment with limited space and manpower, patients will have to wait a long time, fly long distances, and they are going to need more time and money. Eventually, the number of people who cannot receive treatment will rise exponentially as you go towards developing countries."

"But Schumatix will definitely sabotage you," Nicholas said.

“Then I will just fight them with science,” Young-Joon said. “I will accept it if their attacks are reasonable, and if there is a problem with it, I will just destroy it with clear evidence and knowledge. I don’t know how to take the long way or lay low to protect other’s livelihoods. Isn’t that the principle of learning and the right thing to do?

“There is only the truth and advancement in science. If there are any side effects on society that occur in the process of advancement, it should be taken care of, but I don’t think that includes the livelihood of Schumatix or Roche.”

Nicholas massaged his eyes with his hands like he was getting a headache.

“I heard that you lost your younger sister to liver cancer.”

“That’s right.”

“I think that has become a source of trauma for you, causing you to be obsessive. You can’t treat all patients this quickly. Even if there is a shortcut, you have to know how to go the long way if that path is dangerous. You have to be more careful about doing significant work that might improve the medical community,” Nicholas said. “Doctor Ryu, how many pipelines do you have for stem cells?”

“Glaucoma, Alzheimer’s, spine, bone marrow, cartilage, skin, organoids. A total of seven.”

“You started too many things at once. You probably made that many enemies. If backed up into a corner, a mouse will bite the cat.”

“If those mice transmit diseases or eat away at our future food source, I will gladly get bitten and fight them.”

“You are determined.”

“You know me.”

Nicholas suddenly smiled.

“Alright.” He nodded. “I don’t care what anyone says, but I like your unwavering personality. I’m just worried that it will destroy your future, Doctor Ryu.”

“Thank you. But don’t worry too much. I’m fine.”

“Alright. If you have difficulties, please tell me. I’m not as smart as you, but I know how dirty this industry can be, more than you. I will definitely be of help.”

“Thank you.”

After Nicholas left, Young-Joon leaned back in his chair.

—I really cannot understand you.

Rosaline said.

—If you are worried about the harm that the pharmaceutical cartels will do to you, there is a much easier way.

“What is it?”

—I’ll design a few viruses for you, and then you can go meet the company’s board members and infect them. They’ll end up in a long-term coma. They will not think of touching you if their management collapses. It’ll be hard for them to even keep their company running.

“... No, don’t do that...” magic

—It’s not like we’re killing them, right? We just have to let them lay down for a few years. We can wake them back up after you dominate the pharmaceutical industry, right?

“How can you say something so crazy and insane as if you’re saying that you want to grab burgers for lunch today?”

—I have analyzed your morals and ethics for a long time. In my opinion, this is not unethical. This is the fastest choice for the improvement of universal health, and it is safe because we are not taking their lives. And since they will not be criticized by the shareholders if they are sick and laying in bed, unable to run their company, it will give them a reason for their loss. It’s a win-win for both.

“I don’t have the right to do something like that. It’s not like they caused me harm or anything.”

—There’s a possibility they will, no? If police run into an extremely agitated criminal, they will subdue them and put cuffs on them to take away their freedom of movement. That isn’t considered immoral to you, right? It is the same thing.

“It’s a no, man.”

—Then what are you going to do? I can stop them if they attack you directly, but they might attack you more politically.

Rosaline said.

—If I was the CEO of a multinational pharmaceutical company and my livelihood is being threatened by you, I would find a problem with your kit, like Nicholas said.

“They will do something like that.”

—If I were them, I would cause a problem with the patient. After causing a fatal eye disease, I will say that it was a side effect from your treatment kit.

Young-Joon put down the coffee he was drinking.

“I hope they don’t go that far, but there is a possibility they will do that.”

—Maybe.

“They might prove that there was no problem with the administration of the treatment itself by using a renowned doctor, and sabotage me by saying that my kit is the problem.”

—I would do that if it was me. What are you going to do?

“If they mess with the patient, I will show them hell. But I can’t make all the directors brain dead even before they do anything just because I think they are going to commit a crime. I have my own way. I’ll hide a counter-attack in the kit, so don’t worry.”

—Aha. Are you going to do something like revealing that it was caused by Schumatix when a patient gets a fatal disease like cancer?

“No. A patient will not get hurt,” Young-Joon said.

* * *

After Carpentier joined the company, the progress of the study had risen sharply. In just a month, numerous tissue regeneration experiments based on stem cells had quickly progressed. Results had started coming out one by one as he took charge of the spine and bone marrow.

But surprisingly, the work that had the fastest progress was organoids, the hardest one.

“As you said, we three-dimensionally grew four types of epithelial cells and an intestine stem cell at the same time,” Cheon Ji-Myung presented at the meeting. “We had some trouble with getting the right ratio and the gene expression level, but these are the results.”

He went to the next slide. There were pictures of circular cell structures. It looked like a dandelion. People who didn’t know much would wonder what kind of intestine looks like this, but Young-Joon looked at it interestingly.

“We created the endoderm first by promoting TGF-? signaling. Then, we created the stomach structure by treating the FGF4 and WNT3A,” Cheon Ji-Myung said. “I will explain each cell in the picture in order. This is the enterocyte, over here and here are goblet cells and the enteroendocrine cell. And the cells on the outside are intestine stem cells.”

Cheon Ji-Myung explained the pictures in order.

“They are still the size of my thumbnail. This can’t replace the small intestine, but theoretically, we can use this to cultivate artificial small intestines if grown in large quantities.”

“But it will cost a lot of money to do that, right?”

“There is still the question of whether we can grow this into an organ with current technology, but even if we can do it, the materials for growing them would cost an astronomical amount of money,” Cheon Ji-Myung said.

“It’s fine. It’s a big deal that you made an organoid in the first place. It’s already worthy as the front page of *Nature*. Good work,” Young-Joon replied. “And this doesn’t need anything like a clinical trial. The research is done if you successfully created organoids. Doctor Cheon and our organoids team, good work. From now on, we will use this organoid in the next-generation’s hospital

to precisely diagnose patients with Crohn's or tumors in their small intestines and treat them."

"Haha, thank you. We almost died while making it, but it feels rewarding."

"Was it really hard?"

"We stayed up for days. It's difficult enough to differentiate and grow one cell, but to tie five different types of cells together and grow them simultaneously to create a 3D structure was... I don't know. It was a very, *very* creative attempt to put it really nicely."

"Haha, it was crazy, I admit it. To be honest, I didn't think you would do it this quickly."

"It's because you designed the strategy for us."

"It's still an amazing speed, even considering that."

"A lot of world-class scientists joined the company, so we have to work hard to not get fired," Cheon Ji-Myung said playfully. "Anyway, sir, give us a lot of bonuses since we all worked hard."

"Of course. I will give you a vacation as well. And when you come back, let's try making the next organoid."

"The next organoid?"

"Let's increase the difficulty a little and try liver organoids," Young-Joon said.

The life kind of drained out of Cheon Ji-Myung's face.

"Yes... We will do that."

"Don't spend the night and overwork yourselves. You have to take care of your team's health for the long run," Young-Joon said. "Oh, and Doctor Cheon, please write a paper that you succeeded in creating organoids. You can be the first author and please distribute the order of authors to your members. I will leave it to you."

"Okay. I will enter you as the corresponding author."

The first author was usually the front-line scientist who did the experiment, but the corresponding author was the project's supervisor and manager. If the first author was a graduate student, the corresponding author would be the professor.

"Alright. You should send it to *Science*. It will be on the cover since it's big," Young-Joon said.

"I didn't think I would ever write the cover of *Science*," Cheon Ji-Myung said with a giggle.

"Yes. if there aren't any other papers."

The manuscript for the paper was still being written, but the news that they had succeeded in creating a small intestine organoid swept through the company and spread a sense of motivation.

"Let's steal the cover of *Science*," Carpentier said during his meeting with the spinal regeneration team. "I sincerely congratulate the organoid team's performance, but we can't fall behind, right? Let's work hard and yield good results. Regeneration of the spinal nerve can go up against organoids. If we see results in mice experiments, we could be able to surpass organoids. Then, the *Science* cover is ours."

Carpentier chuckled.

"It's like archery..." Doctor Goo Chan-Yeol said.

"Archery?"

"It's a sport that Korea is proud of, and the competition to choose the national team is more intense than the Olympic gold medal match."

"I don't watch archery, so I don't know. Anyway, we have made good progress on our project, so let's work hard and have it out."

But the competitor for the cover of *Science* was something no one expected, and it was a much more powerful result than organoids or spinal regeneration.

[A-Bio finished with Phase Three of the glaucoma treatment.]

[The first-ever stem cell therapy to be commercialized.]

[A-Bio, the center of the stem cell treatment market.]

Just overnight, a huge amount of news poured out. The glaucoma treatment was finished with the third phase of its clinical trial. They had treated about a thousand patients. Now, it was facing commercialization.

*Chapter 62: The First Product (3)*

In order for people to buy the stem cell and optic nerve differentiation kit, they had to receive basic training about the experimentation method from A-Bio, as A-Bio would not sell it unless one attended the session. Although A-Bio couldn't reimburse the transportation or accommodation expenses, the training itself was free.

As such, scientists from all over the world swarmed to A-Bio after the third phase of the glaucoma clinical trial ended. Usually, A-Bio's stem cell experts would do the training, but Young-Joon decided to give the first lecture himself as it was the first time.

"Look, there are two kits. They look like eye drops, right? One drop of solution will come out of them if you squeeze the bottle," Young-Joon explained as he showed the kit to the audience. "They are either called the first kit and second kit, or called the dedifferentiation and optic nerve differentiation kit."

Young-Joon dropped one drop of each solution onto a tissue to show them. magic

"First, you need to overexpress the genes SOX2, cMyc, OCT4, and KTF4 in order to dedifferentiate somatic cells to stem cells."

Young-Joon took a culture dish out of the incubator and showed it to the scientists.

"The sample of the patient's somatic cell you harvested onto the culture plate should look like this. There's a picture of a microscope beside it, right? Now, this somatic cell is mine," Young-Joon said with a chuckle.[1] "We are going to add ten drops of solution number one, the dedifferentiation kit we developed."

*Drop! Drop!*

"There is a living virus in this solution. For you to handle this, you will have to get a laboratory inspection and permit from your respective countries," Young-

Joon said. “This virus inserts the four genes I mentioned earlier into the somatic cell’s DNA. Then, dedifferentiation occurs as these genes are expressed.”

Actually, all of the scientists here knew that as they had all read Young-Joon’s paper, but even so, they passionately wrote down everything that he was saying.

“The volume ratio is one drop per culture medium, and you must distribute the solution evenly across the culture plate. After three days, they will have become iPSC. Let’s use iPSCs that I prepared beforehand since I have to show you how to do it.”

Young-Joon pulled out another culture dish.

“It will look something like this after three days, and you can see that morphologically, it has the structure of a stem cell. You can also additionally verify it through things like DNA methylation analysis,” Young-Joon explained. “I will leave that up to you. The next step is to make these iPSCs into optic nerves. Now, we use the second kit, the optic nerve differentiation one.”

*Drop! Drop!*

Young-Joon put a few droplets of the solution from the optic nerve differentiation kit onto the culture medium.

“They will now differentiate into optic nerves. But at this step, you must use a culture medium that contains five micromoles of hydrocortisone,” Young-Joon said. “It’s not that difficult. Everyone will actually be doing this experiment for about ten days here. I will hand out experiment protocol books so that you can read that and follow it after you leave.”

“Thank you.”

“I appreciate it.”

As they began their experiments, Young-Joon silently observed them. There were several scientists from numerous countries: Switzerland, Britain, USA, France, and more. They were also affiliated with different places; some were part of huge pharmaceutical companies like Roche or Pfizer, and some were from venture companies he had never heard of.

However, Young-Joon had his eye on one person.

*‘Daniel.’*

He was a scientist from Schumatix. He looked very friendly, but Young-Joon wondered what kind of person he was. Whatever it was, he would get training for ten days and buy the virus to take home. And there was a very high chance that it was going to be used in India.

* * *

Young-Joon was sending someone an email from his office.

[Hello, this is Ryu Young-Joon from A-Bio. I am sending you an email from the business card you gave me. There is something I want to ask as a favor. It might be a secretive talk. Please reply to this email if you are willing.]

Time passed, and it was now evening. Young-Joon was getting ready to leave when he got an email on his phone.

[Please use the cell phone we sent you. Pick up the phone at 9 PM in Korea time.]

*‘A cell phone they sent me?’*

As Young-Joon was confused, someone knocked on his office door.

“Sir? It’s Yoo Song-Mi.”

“Come in.”

Yoo Song-Mi was the secretary that was hired three days ago. She handed him a small package.

“Thank you.”

Young-Joon opened the package to see a tacky-looking foldable phone in it. When it became nine o’clock, he really got a call on this phone.

“Hello?”

—Hello.[2]

It was an electronic voice that had been altered.

“Hello, this is Ryu Young-Joon.”

—Nice to meet you. I called because you sent me an email, Doctor Ryu. It’s James.

It was Director James Holdren from the White House’s Office of Science and Technology, the person he had met at his hotel before attending the Integrative Brain Disorder Conference in America. He was also the person who warned him about how the huge pharmaceutical cartels would pressure him.

—You have something you want to discuss with me? And secretly?

“Yes.”

—I didn’t know that you would ask for this type of call from someone like me. I thought you only took public and clean paths.

“I’m sorry for disappointing you. It’s because it’s about a patient’s life.”

“-Haha, I’m joking. It’s fine. Please, go ahead. Although, I think I know what this is about.

“I am developing a product that will treat glaucoma,” Young-Joon said.

—Yes, I heard the news. Congratulations.

“Word travels fast.”

—Yes. And since I congratulated you, I will also warn you. From what I see, I think A-Bio is in danger because of that product.

“Have you heard something?”

—You hear things you don’t want to hear when you’re in this position. You should go first, Doctor Ryu. I think the fact you contacted me means that you sensed danger as well.

“I heard that Schumatix is building a next-generation hospital in India.”

—Haha, yes. That’s the information I got as well.

“I think that scientists need basic respect and trust toward other scientists in the same field. But to be honest, I can’t help but feel suspicious.”

—I think so as well.

“I hope that I’m just being overly anxious, but if they use my kit and try to ruin a patient’s life, the situation will go south.”

—I will be honest. In my opinion, Schumatix will induce eye cancer in a patient. They already used that idea to attack Neural Clinic’s new stem cell therapy.

—And there’s a fine line between stem cells and cancer cells. The biggest thing that all scientists fear when using stem cell therapy is cancer. There’s a big possibility that stem cells will cause cancer, right?

“I think so as well. And it’s going to be hard for them to make a connection with the stem cells if they cause any other diseases.”

—Of course. They can’t pour acid in the patient’s eyes and argue that it’s because of your stem cells. It’s not like they have the ability to melt eyes or something, so who would believe that?

—And if there is an immune response when it’s the patient’s own cell, it would mean that Schumatix contaminated something while growing the cell, and if there is an infectious disease, it would mean that the doctor neglected good sanitation when doing the procedure. No matter what, they would be cutting off their nose to spite their face.

“That’s right.”

—But not eye cancer. If cancer occurs, they can strongly propose that it is because of stem cells. Even if they don’t, people would think that it was because of the stem cells just from hearing that the patient got cancer.

“Probably. Cancer isn’t something that can easily occur naturally. I would also think it was because of the stem cells as well.”

—Yes. Then, how are you going to defend yourself when they do a press conference and say that Ryu Young-Joon’s stem cells aren’t safe?

“Cancer won’t happen.”

—What are you talking about? That's what we've been speaking about this whole time? If you put in a large amount of stem cells and leave them, you get cancer. What I am saying is that Schumatix will only use one of your kits. They will use the first kit to dedifferentiate into stem cells and put it into the patient's eyes without using the second kit and differentiating it into optic nerves. A lot of stem cells will turn into cancer.

—And there will be no evidence that it was Schumatix's fault because people will just think that the cancer was caused by the stem cells that weren't fully differentiated into optic nerves. They will think that, "Oh, they don't all become optic nerves even if you use the second kit. If you're unlucky, the stem cells don't differentiate and it becomes cancer." Then, they will think it is dangerous because they wouldn't think that they only put in stem cells.

"Even if you just put in a huge amount of stem cells, you won't get cancer."

—...

"Among the technology we are developing, there's a spinal nerve differentiation one. The differentiation rate is very low, but it's quite successful. Do you know how we do that?"

—How?

"Because the differentiation rate is so low, we administer stem cells to the lesion in dosages that are a hundred to a thousand times larger."

—Holy... Aren't you just administering a tumor at that point? Doesn't the cancer spread right away?

"We put a safety mechanism on it. The cells that don't differentiate in a certain period of time will trigger their apoptosis mechanism and die," Young-Joon said. "The optic nerve differentiation is the same as well. If the differentiation isn't promoted by the second kit, all the stem cells will die in three weeks."

—...

"Originally, it was a safety mechanism that we put just in case. This was just in case an unskilled scientist didn't faithfully follow A-Bio's protocol, or if they didn't thoroughly verify that the stem cells were properly made with something like FACS. It was to ensure that even if some undifferentiated stem cells that were left go into the patient's eyes, it doesn't cause cancer."

James couldn’t say anything. Nothing came out of his mouth because he was so shocked.

*‘This is possible?’*

“But if the scientist really ‘made a mistake’, most of the cells will be established in the retina because they are optic nerves. A very small number of stem cells will self-destruct in the patient’s eye. So, most people don’t know that there are stem cells left. They will just think that they’ve been cured.”

—Probably.

“But what if a scientist just puts in a large amount of stem cells that haven’t even started to differentiate into optic nerves in the patient’s eye?”

James gulped.

—What happens?

“When the safety mechanism is activated, because there is a large number of stem cells, they will aggregate[3]due to the nature of the destruction process. The aggregated mass will be big, and it will look like a tumor from a glance.

—Then...

“If Schumatix reports something about cancer, it will mean that they didn’t use the second kit and administered stem cells into the patient’s eyes,” Young-Joon said. “I will declare war at that moment. I will tell them to see whether the tumor on the patient’s eye disappears in three weeks. If it does, I will tell them that it’s not cancer, but the safety mechanism activating. I will argue about how scientists at a place like Schumatix did the experiment to get results like that.”

—They are either so horribly unskilled that they forgot a step even after getting training from the production site, or they tried to cause cancer in the patient’s eyes by purposely administering undifferentiated stem cells.

“Yes,” Young-Joon replied. “And if it’s the latter, I will do everything in my power to banish them from the scientific community forever.”

—... I guess I shouldn’t be worried about you. The bomb is in Schumatix’s hand. Then, what is it that you want to ask me for?

“There are two things. This probably won’t happen, but please stop it if Schumatix doesn’t use my kit at all and tries to induce a completely different disease in the patient.”

—You don’t have to worry about that. Schumatix is still one of the greatest pharmaceutical companies in the world, and there are a lot of intellectuals there. They won’t make a move that stupid. They would be shooting themselves in the foot if they did that.

—No matter what kind of disease they create, it will be hard for them to attack you if it’s not cancer because people will think that they made a mistake, whether it’s in the growing phase or the administration itself. And the truth will come out if they follow the evidence left on the patient’s eye. Their only option is cancer, the biggest problem with stem cells.

“I think so as well. I am just trying to be prepared for anything out of worry.”

—I see that I am also one of the safety mechanisms. Alright. What’s your next request?

“If I do a press conference and go to war with Schumatix, they might try to remove the patient out of anxiety,” Young-Joon said. “They might do that so that the world doesn’t see that the thing they claimed was a tumor was actually just stem cells in the natural process of dying from the safety mechanism. I am saying that they will try to get rid of the evidence.”

—They could do that.

“In that case, please protect the patient.”

—Now I get why you called me, and why it was so secretive.

“Yes.”

—You are asking me to move the CIA, right?

“Yes, that’s right.”

James smiled.

—I will report this to the President and begin. And I will also get you more information on this. If Schumatix reports of a tumor, I will let you know how far up the ladder it goes.

“Thank you.”

—Don’t forget to partner with the National Cancer Institute and build A-Bio’s cancer research lab here.

“Of course.”

1. This is a Korean meme originating from a news anchor reporting about how a person stole the certificate of a registered seal, which the actual owner provided to use their car as collateral for loans, and stole the car. The anchor says, ”Now, this somatic cell is mine” to reenact how the car was stolen. ?

2. Spoken in English. The rest of Young-Joon’s conversation with James is in English. ?

3. a process in which cells clump together ?

Chapter 63: The First Product (4)

—Every second week of March is World Glaucoma Week. It’s a week of campaigns to raise awareness for glaucoma, one of the three major causes of blindness. The organizers of this week are the World Health Organization, the World Glaucoma Association, and the World Glaucoma Patient Association.

Professor Shin Jung-Ju of Yeonyee Hospital said on the radio.

—Oh, I didn’t know there was something like that. World Glaucoma Week?

The interviewer replied to Shin Jung-Ju.

—Yes. Coincidentally, the second week of March happens to be the week when Phase Three of the glaucoma trial ends. I think this year’s glaucoma campaign will be quite hopeful.

Shin Jung-Ju said.

—Then maybe this week will be called the Glaucoma Conquering Week from now on.

The interviewer said with a chuckle.

—That’s right. Especially with A-Bio’s product, not only are they providing the treatment, but they made a stem cell production kit and have decided to

supply it to the world. With this product, you can easily design stem cells and optic nerves with patients' somatic cells from anywhere around the world.

Shin Jung-Ju explained.

—Wow, so are you saying that we can do it without a scientist?

—Haha, no. You still need someone who studied stem cell differentiation. People will be able to make somatic cells into optic nerves following the experimentation method provided by A-Bio after receiving training from them.

—I see.

—But the efficiency of the treatment increases exponentially compared to if A-Bio and their hospital treats patients.

—Of course.

—Yes. There are more than forty-five million glaucoma patients in the world. That's the entire population of Korea. How could the A-Bio hospital treat them all by itself? And because glaucoma originates from age, the patients don't have much time either. It's hard for them to wait for their turn.magic

Shin Jung-Ju said.

—I see.

The interviewer replied.

—A-Bio would have earned a lot of money, and their stocks would have surged if they just provided the treatment and monopolized it. Perhaps this way would have been better to establish their identity as the first-ever next-generation hospital.

Shin Jung-Ju added.

—But I think that the fact that they went out of their way to develop a kit and have decided to supply it to the entire world was truly a humanitarian decision. They were thoughtful of the people who wanted to see their grandchildren's faces just one more time before they died. It was truly brave and clever. I personally think highly of their decision.

Even before the excitement subsided, there was more breaking news.

[Launching of A-Bio’s next-generation hospital]

[Alzheimer’s expert, Professor Koh In-Guk of Sunyoo Hospital joins A-Bio.]

[Professor Rebecca of the Johns Hopkins Brain Science Institute joins A-Bio.]

[Professor Sung Yo-Han, the first primary doctor of the glaucoma trials, joins A-Bio.]

[The doctors of A-Bio’s next-generation hospital will be the best in the world from the start.]

Articles poured out.

[A-Bio Hospital performing glaucoma treatment and accepting appointments…]

[A-Bio secures small intestine organoid technology and will use it when treating patients with intestinal diseases.]

[Artificial organ technology comes within reach.]

[A new paradigm of intestinal disease treatment.]

[Organoids in one hand, stem cell therapy in the other: what kind of place is A-Bio?]

[More precise diagnoses, more powerful treatment.]

The internet was going wild.

—Holy crap.

—It was the twenty-first century yesterday. What century are we in today?

—They destroyed one of the three blindness-causing diseases. Wtf.

—I don’t even know what an organoid is. Everything that's been coming out recently is so out of this world. All I can manage to understand with my brain is glaucoma.

—Current med student here. I’m glad and also sad at how the amount of testable material is increasing.

—I can’t believe we’re treating glaucoma. My father has glaucoma. I should take him there. Are there a lot of appointments?

—But isn’t it still dangerous? We don’t know if it’s safe or not.

└ It already cured a thousand patients. Cure rate is one hundred percent and the side effect rate is zero. Statistics don’t lie. Don’t ever ignore Phase Three again.

But the good news was far from over. As they had sown many seeds at once, there was a lot to reap. A new drug that was more impactful than the glaucoma treatment or organoids had finally entered clinical trials.

[A-Bio’s Amuc, a type-2 diabetes treatment, enters the first phase of clinical trials.]

This news was so powerful that it completely outweighed all the other good news that came out about A-Bio. Three hundred million people from all over the world suffered from this disease.

Everyone’s eyes were on A-Bio.

As A-Bio showed huge results right before Amuc went into clinical trials, the impact this news gave was stronger. Since they had conquered glaucoma and organoids, areas that seemed impossible, there were high expectations that the same thing was going to be possible with diabetes.

“This is insane…”

Samuel, the editor of the American Association for the Advancement of Science and its journal, *Science*, was screaming out of joy.

“How many cover-worthy papers are we getting? A type-2 diabetes treatment, commercialization of the glaucoma treatment, and organoids? Organoids?!” Samuel exclaimed in excitement. “Jessie! Should we buy a lottery ticket? With this luck, don’t you think we’re going to win the Powerball or something?”

“We have a lot of important papers, so let’s not get distracted and focus on editing these well. It’s over if we make a bad impression and we lose Doctor Ryu to *Nature*.”

“Hahaha! Never. But seriously, how can a company like this exist? They got all of this data in just a couple months?”

“They studied type-2 diabetes and glaucoma for over six months,” Jessie pointed out.

“Only six months. Even in the last half century, there was no work that crushed type-2 diabetes this much. And glaucoma was an incurable disease.”’

*Ding!*

Jessie’s phone rang.

“We got another paper from A-Bio,” Jessie said. “The first author is Carpentier. Study of spinal nerve differentiation with induced pluripotent stem cells…”

“Oh God! Thank you, Father! Thank you for letting me live in the same generation as them!” Samuel shouted.

Jessie tried her best to smile. Samuel stood up from his seat and got close to her.

“What did they do?”

“How should I know? I just got the paper too. In the abstract… Um… It says that they succeeded in regenerating spinal nerves. They performed the treatment on spinal damage model mice and succeeded in making them walk.”

“If this was a civilization game, Korea would claim the Scientific Victory.”[1]

“I don’t play games, so I don’t know what you’re talking about.”

Jessie looked through the paper, then found something.

“Oh, but if you look at the letter to the editor, they’re asking us to publish this slowly.”

“Why?”

“It says that they have to put an embargo on the automatic death technology for stem cells for a while.”

“Okay! We can do that for sure.”

“Other than that, Samuel… What do you think? About releasing an A-Bio edition.”

“This definitely deserves a special feature. It’s going to be difficult to choose a cover, but this is crazy. Seriously, if all of this is true, A-Bio will dominate the first fifty pages of this month’s *Science.*”

“Let’s get an interview from Doctor Ryu when we release the feature.”

“Good idea. You’re going to go, right?”

“Of course.”

“I think A-Bio will publish more papers, so why don’t you just stay there instead of coming back?”

“You’re joking, right?”

“I am, but I can seriously consider it if you want.”

“... Let me go to Korea first.”

“Jessie, think about the day when all of this technology gets commercialized and provided to patients. It’s insane. It’s not just a step forward in medicine, you know that, right?”

“It’s like accelerating on a car,” Jessie agreed. “Samuel, the glaucoma treatment kit was commercialized and released, right? I think that will be key. If that is safe and works perfectly all around the world, A-Bio will have a clear path ahead of them.”

“Phahaha. They had one thousand patients for their third phase, and their cure rate was one hundred percent. The power of A-Bio’s clinical data is probably legendary in the pharmaceutical industry. Since it’s the first ever stem cell therapy, Doctor Ryu probably conducted it really strictly because he was worried about people doubting its safety. What kind of accidents will happen?”

Samuel laughed. He said, “Anyway, hurry up and go to Korea!”

“Do you know how many papers I am editing right now? I have to finish that and go.”

“Oh, you can push that back a few days.”

“This is a paper from Harvard Med, too.”

“I’ll talk to them myself if they say something to us because the editing is taking too long. So, hurry along. I’ll book the ticket for you.”

“... Okay.”

* * *

India was called the world’s pharmacy. It was because this was where all types of new drugs were replicated. The reason this was possible was because the Indian government’s patent laws were a little different than the world’s.

Normally, the drug had to show ty or some sort of special advancement when getting a patent for a new drug. But the Indian government was very generous regarding this issue. They acknowledged it as a new drug even if it was slightly different, and they disregarded existing patents from multinational pharmaceutical companies in their country. They had a lot of conflict with international companies because of this, but the company that had the worst relationship with them was Schumatix.

Schumatix was selling a drug named Gleevec that treated leukemia at a very high price, but India made a replicate drug. Schumatix immediately sued the companies that designed the replicate drug, but the Indian government didn’t care about the international verdict and just protected their own companies. To be completely honest, the Indian government had completely ignored international patent laws.

But it was also true that Schumatix could no longer sell Gleevec however they wanted, making a net profit that was one hundred times more than the production cost, as the Gleevec-replicate drug manufactured in India made its way around the world.

*‘If this goes well, the Indian government will also take on some damage. They’re basically failing once at getting on stem cell therapy, the world’s new medical trend.’*

Luca Taylor, the CEO of Schumatix, was sitting in his office, lost in thought.

*Bzzzz.*

His phone rang.

“Hello.”

—It’s Andrew. I’m calling you to give you an update.

“Good. How is it going?”

—Doctor Daniel got a kit and has safely returned to Schumatix India.

“Yes. Yes!”

Luca Taylor clenched his fists.

—We gathered quite a lot of patients, but we are thinking of inducing cancer in one of them.

Andrew said.

—The success rate was one hundred percent for a thousand people, so it would be weird if there were a bunch of cancer patients.

“That’s true. How many patients are there?

—We have gathered around one hundred people. We are only going to induce cancer in one of them.

“Who are they? I hate people like family or something like that begging and pleading, you know that, right? You have to do this as quietly as possible.”

—Of course. We have been advertising that Schumatix India is using the new glaucoma treatment and treating the poor, free of charge, for charity.

Andrew said.

—The Dalit[2], beggars from Mumbai, and a sick, lonely elderly man all the way from New Delhi. It was a hassle bringing him here.

“Who is the target? The old man?”

—The old man is over seventy. Even if we induce cancer in him, it won't have much of an impact. People might just say that it's because he's old since there were no reports of side effects when they treated a thousand patients in the clinical trial.

"Good. Great job. Then, who's the target?"

—It's a man named Ardip. He's in his thirties, and he's healthy except for the fact that he has glaucoma. He has a limp in one of his legs, but it's okay. He was born in a prostitution hole, and his mother died as soon as he was born, meaning he has no family. He grew up running errands for the gang members that managed the prostitution hole for food and was beaten regularly. He wasn't educated and he has no relatives either.

"Alright, good. What stage are you at right now?"

—We have obtained the patient's somatic cells and have treated it with the first kit. After the dedifferentiation ends, we will begin the surgery.

"Who did you say was the lead surgeon?"

—It is Professor Martin from France. He specializes in eye diseases and is highly respected in medicine. He put his gown on to come to this crappy neighborhood and examine patients in the spirit of service.

"You picked a good person. You set up a CCTV in the operating room?"

—Of course. We got Professor Martin's consent as well.

"Alright. If we did this much and we release the video, we can sway the public that the procedure itself wasn't the problem. Let's use Professor Martin's reputation," Luca Taylor said. "No matter how good Martin is, unless he has microscopes for eyes, how can he know whether he has stem cells or optic nerves in his needle?"

—I will contact you if there are any updates.

"Okay. Good work."

After ending the call, Luca Taylor put his legs up on his desk.

"India. A garbage country that only knows how to replicate drugs," he said to himself. "This is why Asian monkeys who haven't properly developed new

drugs can’t make it. Look at them opening their markets right away as soon as Ryu Young-Joon makes a product that’s getting famous.”

Other countries reacted quite passively to Young-Joon’s glaucoma treatment. Even though he had results of successfully treating a thousand patients, the government’s regulations did not ease. As it was the first ever stem cell therapy, they were going to see the vibe of how it was going in other countries and slowly lift their regulations.

However, the reason that pharmaceutical companies from all over the world sent their technicians to A-Bio to be trained was that they knew the regulations would be lifted soon; it wasn’t easy to get amazing results like a cure rate of one hundred percent on a thousand patients. They were still prohibiting stem cell therapies because they were waiting for the right time.

But this was an opportunity for Luca Taylor. Once they lift regulations and begin administering the glaucoma treatment, it would be too late for them. It would just be considered a huge outlier among the overwhelming amount of successful results from all over the world.

*‘Strike first.’*

Luca Taylor had to dominate it first. Before other countries began glaucoma treatment, he had to reveal the side effects to the public and shock them to create a fearful environment.

That was why Luca Taylor picked India. As loose as their regulations on new drug patents were, they weren’t that picky about using new drugs either.

“To be honest, Pfizer, Conson & Colson, A-Gen should all be grateful to me.”

Luca Taylor leaned back in his chair and raised his glass. It was a bit of an early toast.

“I’m giving them time from that pharmaceutical monster. They should use this opportunity to get ahead. Venture companies are like a house of cards, so they’ll come falling down with one hit, and we can steal some people and technology in the meantime.”

He finished his drink.

“A good plan.”

He thought his plan to screw over India, the people he found most irritating, and Young-Joon at the same time was brilliant.

Luca Taylor was satisfied.

1. There are various types of victories in civilization games, one of which is the Science Victory, the ending given after becoming the most advanced in science and technology. ☜

2. A word that refers to members of a low-class Hindu group that is outside the caste system. This word was declared illegal in India and Pakistan. It was used in this sentence as Andrew and Luca are being very demeaning and do not view these patients as people, but subjects they are using to screw over Young-Joon. ☜

## Chapter 64: The First Product (5)

A lot of scientists at A-Bio took turns having interviews with Jessie. Because Young-Joon volunteered to be the very last, she met with Carpentier's spine regeneration team, Cheon Ji-Myung's organoid team, and Choi Myung-Joon's type-2 diabetes team.

"Spinal regeneration still has a long way to go. We did see results in mice experiments, but the experimental group was small. Also, we have to do monkey experiments due to the nature of the research to finish pre-clinical experiments," Carpentier said.

"The small intestine organoid has a lot of room for future applications in the research and treatment of various diseases, including Crohn's disease. Oh, we spent nights making progress because we were motivated as well. We were like, "Finally! It's done! Boom! Organoids!"... but now, our CEO wants to do livers as well. If you can, can you add a job posting at the end of this interview? Our team is dying right now," Cheon Ji-Myung said.

"All of this success was created from our CEO's critical insight and brilliant ideas. All we did was strictly follow the basic strategy he designed and control various factors and conditions. Similar to how you can be the first in your class if you study by the book, we developed Amuc following the direction of our CEO…" Choi Myung-Joon said.

"I heard that you developed this in collaboration with Celligener. Could I meet someone from Celligener?" Jessie asked.

“I think you’ll have to go to Celligener for that. They don’t work here.”

Celligener: it was a venture company that became pretty famous at the IUBMB. Jessie had heard that they were doing a collaborative project with A-Bio.

“Thank you. I’ll head there.”

“But the key scientist who does probiotics probably isn’t there. They’re in India.”

“India?”

“Yes. They secured a good investor at the IUBMB, and it’s some wealthy man from India. So, the CEO of Celligener and that scientist went to India to get some funding.”

“Thank you.”

“Are you going to go to Celligener? I think I’m going to have to think about it if neither the CEO or the key scientist is there. I’ll go see the clinical trial scientists first.”

* * *

Jessie went to A-Gen. She visited the Stem Cells Department and the Clinical Trial Management Center that conducted the glaucoma trial and interviewed the people responsible. She also met Sung Yo-Han, the primary doctor from Sunyoo Hospital who was in charge of the clinical trial.

“Why did you move to A-Bio?” Jessie asked during the interview.

Actually, the reason Sung Yo-Han moved hospitals was because he heard that Sunyoo Hospital had a conflict with Professor Koh In-Guk and Young-Joon over the Alzheimer’s clinical trial. There were quite a lot of doctors who were disappointed in the hospital because of that, and a few doctors left as Koh In-Guk, who was very respected in the hospital, moved to A-Bio.

“I wanted to come work here from the moment I heard that it was being built,” Sung Yo-Han said. “But I had to finish the clinical trial I was doing at Sunyoo Hospital, so I finished it and came here.”

“Sunyoo Hospital must miss you. Patients will come to see you, the primary doctor of the clinical trial, and now they will go to A-Bio, not Sunyoo.”

“It doesn’t matter what hospital patients get treated at. As long as they get better.”

“You are right,” Jessie replied.

She was almost done with her interview.

After finishing it, she came back to A-Bio and met Young-Joon.

“It’s been a while, Doctor Ryu!” Jessie greeted Young-Joon brightly.

“Nice to see you.”magic

“How have you been? A-Bio has been giving us papers like carpet bombing.”

“It’s all thanks to our scientists who work hard on their experiments.”

Jessie did a short interview with Young-Joon. It was about how the next-generation hospital was going to be run, which research had the fastest progress and things like that.

“You have been providing your glaucoma treatment kit to the entire world. Have you heard anything about where it is being used?”

“I imagine I’ll be hearing things soon, but I haven’t heard anything yet either. But I heard that Schumatix India, a hospital that Schumatix sponsors, is remodeling into a next-generation hospital and providing glaucoma treatment.”

“Really?” Jessie said.

“Yes.”

“Wow. We’ll be hearing good news soon.”

Young-Joon just smiled quietly as he watched Jessie exclaim in joy. After about thirty more minutes, Jessie got up from her seat.

“I had a great time today. I will call you again.”

“Jessie.”

Young-Joon called her.

“Yes?”

“When are you going back?”

“Since I came here already, I took a couple days off to have some fun and get some rest. I will leave in about a week.”

“I see. Then you might hear some important news during your stay.”

“Important news?”

Jessie’s eyes shone.

“Yes. There’s something I heard about, and I think it’s going to come out in a few days.

* * *

What kind of news was this that the person who had mastered all kinds of new technologies would call it important? Jessie was prepared to cancel her flight to see that. And what Young-Joon said turned out to be right.

It was around eight in the evening when Jessie was having a late dinner at a Korean restaurant after Jessie visited a bunch of places. As she was scrolling through her social media on her phone from boredom, she saw a news article pop up.

[Breaking news: Eye cancer found in a patient in Navi Mumbai, India, who was being treated for glaucoma.]

“What…?”

Jessie’s eyes widened. She only recognized a few words with her Korean, which she had learned a little bit of after her first interview with Young-Joon, but she understood what it was right away. She quickly searched on the internet, then called Samuel right away.

—Jessie. Isn’t it too early in the morning to call? I thought it was my alarm.

“Samuel! Look at the news right now! Is it airing there, too?”

—What news?

“A patient in India who was treated for glaucoma with A-Bio’s product has eye cancer!”

—What?!

“Schumatix is announcing it right now.”

—What the… I’ll go look at it right now.

“*Nature* will write this as their headline. If there is a problem with the glaucoma treatment, it could damage us because we published the paper.”

—Alright, calm down. First, I have to see Schumatix announce this. I’ll watch it and then get back to you.

After hanging up, Samuel turned on his computer right away. Luca Taylor, the CEO of Schumatix, was doing a press conference.

“We are sponsoring an Indian hospital, Schumatix India, as part of our international medicine charity. India Schumatix recently purchased A-Bio’s glaucoma treatment kit, and it was used by the hospital’s scientists and doctors to treat patients. Most of them are improving, but we have discovered that one patient has developed eye cancer.”

“Who are you referring to when you say the hospital’s scientists?” asked the reporter.

“We got volunteers from the stem cell experts at Schumatix and sent them to A-Bio. They learned stem cell dedifferentiation technology from CEO Ryu Young-Joon himself and worked on optic nerve differentiation at India Schumatix.”

“Are you saying that there were scientists who could do optic nerve differentiation at the hospital?”

“That’s right. We were inspired by A-Bio’s growth and decided to quickly follow their pace. We set up dedifferentiation facilities for stem cells and provided technicians to India Schumatix in order to make it into the second next-generation hospital in the world.”

“Is there a possibility that the reason a patient developed eye cancer was not because of the optic nerves, but the doctor’s mistake?”

“It cannot be. We were trying to grow this hospital out of humanitarian and welfare purposes. We recruited Professor Martin, the best eye doctor expert in the world, all the way from France. Additionally, the entire treatment process was recorded by the security camera in the operating room, and there were no problems in the procedure,” Luca Taylor said. “And even if you make a mistake in the procedure, a tumor doesn’t suddenly begin growing unless you shoot the patient with radiation or something. There were no other factors that could have caused cancer.”

“How is the patient?”

“We are preparing for surgery, but we are in a predicament as it is very difficult to remove it due to the nature of the tumor.”

“Are you sure that it is a tumor?”

“We are sure,” Luca Taylor said.

He was a businessman now, but he was once one of the best scientists in the world. Luca Taylor was careful about what he was doing. The most certain way to determine that it was a tumor was to take it out with surgery and analyze it. But the evidence would be tampered with in that case, as the tumor had to be revealed to the world while it was in the patient’s eye.

Then, what was an indirect way to determine it? They could observe how the tumor changed. If it was just the aggregation of normal cells, it would disappear in about three days. But the tumor was growing even after five days.

“The tumor is growing continuously. It is unfortunate, but India Schumatix Hospital does not have the facilities to remove the patient’s tumor. As such, we are going to transfer them to another country to treat them because the longer it takes, the worse it is for the patient. We are going to be as fast as possible,” Luca Taylor said.

“There were no patients who developed tumors during the clinical trials, so why did one occur here?” asked one of the reporters.

“Most of the people who participated in the clinical trial were Korean, right? I believe that a difference in genetic background could have caused this. Whatever it is, what’s clear is that the safety of this technology hasn’t been proven enough to be distributed to the world,” Luca Taylor said. “It is the first-ever stem cell therapy, and it is a technology that uses stem cells, a type of cell that is not that different from cancer cells. We need to be a lot more careful with this than other drugs.”

As the reporters were writing down what Luca Taylor was saying for their article…

*Ring!*

One of the reporter’s phones rang. When they took it out and read the message, they were shocked.

“Ryu Young-Joon, the CEO of A-Bio, is going to have a press conference in Korea right now.”

“A press conference?”

They were doing a press conference here right now, and Young-Joon was fighting back right away? He reacted so fast it was as if he was waiting for it. The reporters murmured.

Luca Taylor, who had become pretty sharp and quick from being a businessman for a long time, sensed danger.

*‘Something’s wrong.’*

* * *

“Right now, Schumatix is making an issue about the safety of A-Bio’s glaucoma treatment kit. They said that a tumor occurred in the eye of a patient who was treated with the kit,” Young-Joon said in front of the reporters. Jessie wasn’t a reporter, but she was also here.

*Flash! Click!*

The reporters continuously took photos and wrote notes.

“But that is not a tumor,” Young-Joon said firmly. “That is the result of the activation of the safety mechanism included in the stem cell treatment kit.”

“Safety mechanism?”

The reporters began talking amongst themselves

“When you use the first kit, the virus attaches a gene called TP54, a self-destruction gene, on the end of a gene called LOX3. Because the cells that haven’t been differentiated into optic nerves keep expressing LOX3, TP54 also gets expressed, resulting in self-destruction after a period of time,” Young-Joon said. “This process becomes suppressed by the virus in the second kit. As the cells differentiate into optic nerves and LOX3 gets suppressed, TP54 is no longer expressed. This algorithm triggers self-destruction in the stem cell state, but does not when they become optic nerves. The reason why we made this system was because we were worried that a miniscule amount of stem cells could remain during the treatment process and cause side effects. It is a type of safety mechanism. As such, our stem cells do not cause cancer even if they go into the affected area.”

*Clack clack clack!*

The reporters’ typing noises filled the room. The reporters could not follow Young-Joon’s explanation right away, but Jessie, who was a former scientist, could understand what he was saying right away. It was truly shocking.

Countless scientists had been working hard to make nerves out of stem cells and treat patients with them. The reason that glaucoma was an incurable disease was because they couldn’t do that.

But not only did Young-Joon conquer that step, but he went beyond that. Now, he had eliminated the side effect, which occurred in extremely low probabilities.

*‘How can this work?’*

Jessie felt euphoric as if she was engulfed in religion or something. When everyone was praising Young-Joon that the technology was an innovative advancement, he wasn’t satisfied and devoted himself to research, taking the next step.

—Not advancing doesn’t mean stagnation, but regress.

Jessie remembered what he said during his last interview. She got goosebumps thinking about what he said.

Young-Joon said, “Then what is the tumor in the patient’s eye? If only a small amount of stem cells remain in the patient’s eye, the destruction process cannot be monitored because they are too small. But if a large amount is administered, the stem cells create a clump of cells due to aggregation after time. From the outside, it looks like a tumor. The thing that Luca Taylor determined to be cancer was that.”

Young-Joon did not refer to Luca Taylor as the CEO of Schumatix, nor did he respectfully address him by doctor as a fellow scientist. He just called him by his name, Luca Taylor. Some of the reporters picked up on Young-Joon’s slightly aggressive tone. They could sense that something bigger was going to come out.

“I actually want to think that it was because Schumatix is just extremely lacking. I want to believe that even though the scientists there received training from A-Bio and the experiment spoon-fed to them, they were just unable to do it because they lacked the skills,” Young-Joon said. “But that was not the case. A few days ago, a report from the CIA that was given to the President of the United States was shared with me.”

Young-Joon picked up a file with a document in it.

“In here, there is suspicion that Luca Taylor himself ordered the hospital to administer stem cells directly into the patient’s eye, not optic nerves. He was trying to purposely cause cancer in the patient’s eye.”

“Ah…”

“Woah…”

Brief sighs and shock spread among the reporters. They became extremely confused in seconds. Amidst the murmuring noise, Young-Joon spoke.

“We will have to thoroughly investigate what dirty tricks and purposes they did this with.”

“Doctor Ryu! Is everything you said true?” shouted one of the reporters.

“If there is even an inch of lies in what I said right now, I will resign from my position as CEO of A-Bio.”

Young-Joon made another power move. The reporters, who were shocked again, didn't stop pressing their cameras.

Young-Joon said, "The safety mechanism is not a regular cell destruction mechanism, but an artificial mechanism by TP54. This process is about two weeks slower than regular cell destruction due to aggregation, but it is much safer as it disappears slower."

"..."

"Two weeks. Watch. The thing that Luca Taylor said was a tumor will disappear. Please watch that it is impossible for those despicable people who deceive medicine to purposely cause cancer, and that the true power of science is far superior to their wickedness."

* * *

At Schuamtix's press conference…

"Ryu Young-Joon of A-Bio is claiming that it is the aggregation of stem cells!" shouted the reporters.

"We are getting reports of the press conference from the breaking news in Korea. In the United States, the White House Press Secretary has announced and confirmed the same."

"Sir. Did you really directly inject stem cells into a patient's eye and induce cancer?"

The reporters' questions became hostile. Luca Taylor's hands were wet with sweat.

"How… could we have done such a thing… I do not know anything about that. I was told that it was a tumor, and all I've done is report it."

Chapter 65: The First Product (6)

"There is a report from the CIA that this was ordered from you," said the reporter.

"No. I had no idea."

"Is that really a tumor?"

“It’s a tumor! It is!” Luca Taylor shouted with his jaw clenched.

“CEO Ryu Young-Joon claims that it is cell aggregation, and he has put his position of CEO on the line that it will disappear in two weeks. Can you do that, too?”

“If stem cells aggregate, they disappear quickly! This is a tumor!”

“He says that it dissolves safer and for a longer period of time because it is a destruction mechanism triggered by TP54. Do you have anything to say?”

Luca Taylor gulped. He tried to say something, but he couldn’t say a word.

“Is the patient at Schumatix India right now?”

The reporters began throwing questions at him again.

“Please tell us about the patient.”

“The White House Press Secretary is announcing the data obtained by the CIA. They say they have recordings obtained through the recording devices in Schumatix India’s stem cell lab, experiment logs and cell morphology pictures. They are saying that there is no data about optic nerves.”

“Did you ever actually make stem cells? There is a recording of Doctor Daniel speaking with a person named Andrew on the phone. They talk about only treating the cell with the first kit.”

“Does Professor Martin know about this? Did he also know that it was stem cells he was injecting?”

The atmosphere became more hostile. Luca Taylor felt cold sweat run down his neck.

“I will end the press conference here.”

He quickly ended the conference and got up to leave. But even as he was walking to his car, reporters followed him, asking him for answers.

“Please give us a response!”magic

“Mr. Taylor! Is what Doctor Ryu announced at the press conference true?”

“Who is Andrew?”

“What are you going to do if that really isn’t a tumor and disappears in two weeks like Mr. Ryu said?”

Luca Taylor silently escaped the reporters with the escort of his security guards.

“Sir! Please explain this!”

“You cannot just go. Give us an explanation!”

The reporters even blocked the front of his car. They clung to the windows and pounded on the hood of his car, demanding an explanation.

This was a big deal. Schumatix, which was based in Switzerland, was one of the largest pharmaceutical companies in the world. A shocking allegation that they caused cancer in a patient’s eye was made against a place that should be leading the advancement of medicine. It was just the reporters going wild right now, but in a few hours, the whole world would be turned upside down. And there was a high chance that Schumatix would become a heinous criminal. They had to fix the situation somehow.

The car drove away after the security guards pulled the reporters off. Luca Taylor pulled out his phone and called someone.

—Hello!

Someone was yelling urgently over the phone.

“Andrew! Where are you?”

—I was just about to call you. Sir! What’s going on?

“I asked where you were.”

—I’m near Schumatix India. I’m in an alley a little far away from the hospital.

Andrew replied.

He visited the hospital, but soon left in horror, as the hospital was filled with police. Andrew’s face was on TV; he was being wanted. At first, he couldn’t believe his eyes, but it was real. Right away, he ran to an old and deserted

alley that was to the east of the hospital. He was first going to escape people's sight before doing anything else.

Andrew shouted into his phone, "Sir, we're in trouble right now! There are police everywhere. They're looking for me! What the hell happened?"

—... We failed, Andrew. Get rid of that patient. That's the only way.

Luca Taylor's voice was filled with a mixed feeling of despair.

"No! I can't. The police are covering the entire place."

—You have to find a way somehow! The longer that bastard is alive, the less we can get out of this. We fell into a trap. Ryu Young-Joon that bastard dug a trap and waited for us!

Luca Taylor shouted.

—The tumor will gradually disappear from that patient's eyeball with time. If that happens, it's all over.

"Even if you say that, it's physically impossible. I don't know what happened, but there are ten Indian police beside that patient right now."

*Crash!*

As Andrew was walking in the alley, he collided with someone with his shoulder. A muscular man offered his hand to Andrew, who had fallen back.

"Sorry."

"Hmph."

Instead of holding his hand, Andrew grabbed his phone that was on the floor and got up.

"Hello? Sir? Sorry, I bumped into…"

As Andrew was about to walk away, the man called him.

"You dropped something."

He pointed to where Andrew fell. As he reflexively turned his head…

*Crack!*

Andrew felt a sharp pain on his waist and fainted.

“Target secured.” CIA agent Robert said into his walkie-talkie. He turned off his taser and picked up Andrew’s phone. Luca Taylor, who was sly as a fox, already hung up, but it didn’t matter. Robert was going to suck out all the phone records and contacts on Andrew’s phone.

Robert collected the phone as evidence and loaded Andrew in his car.

* * *

[What is in Patient Ardip’s eye: tumor or stem cell aggregation?]

[Luca Taylor, CEO of Schumatix, orders Schumatix India to administer stem cells in the patient’s eye to induce a tumor…]

[Schumatix and India’s sour relationship, starting with Gleevec…]

[Nobel Prize recipient Carpentier heavily criticizes Luca Taylor, commenting that he “cannot forgive Luca Taylor; a parasite that undermines medicine.”]

The world’s attention was drawn to this issue as news articles poured out. On issues with two opposing opinions, the side that released more provocative information was at an advantage.

The story that the glaucoma treatment could cause cancer was quite provocative, but the argument from the other side released at the same time was more impactful: Schumatix induced a tumor development in a patient. Plus, Young-Joon already began with a powerful piece of evidence, as the White House Press Secretary announced the CIA’s report and hinted at sanctions against the activities of Schumatix, a multinational pharmaceutical company, in the United States.

On top of that, public opinion of them became worse as the evil acts Schumatix committed in the past started coming out.

[Do you know Neural Clinics, the unfortunate venture pharmaceutical company that was destroyed by Schumatix’s sabotage?]

[Why did Schumatix have conflict with the Indian government? What is Gleevec, a drug that has a net profit one hundred times the manufacturing price?]

[The tyranny of big pharmaceutical companies like Schumatix: What kind of evil do they do to venture companies?]

[Schumatix does not research for patients; they work for money.]

[CIA arrests Andrew, Luca Taylor's subordinate. CIA obtains phone records and messages with Luca Taylor.]

[Luca Taylor sends four billion won to Andrew since 2011 using a burner bank account. Suspicions of embezzlement.]

As news headlines came out one by one, Schumatix and Luca Taylor's image came crumbling down in an instant. Online communities all around the world stood with A-Bio.

—Wow, Schumatix is a huge asshole. Unimaginable. How can a person do that?

—We stand with you, Doctor Ryu. Shred that bastard into particles.

—Current A-Gen scientist here. Doctor Ryu Young-Joon is famous around here for going ballistic when research ethic is broken. I think Luca Taylor is done for.

—But why is Luca Taylor doing that? What does he get from it?

ㄴHe was trying to keep God Young-Joon in check.

ㄴHe did it because his company's sales will plummet when Ryu Young-Joon's stem cell

technology gets launched. He's trying to mess with A-Bio's future.

—I hope Luca Taylor gets eye cancer.

—Schumatix's shares are plummeting for three days in a row. Is this real?

* * *

Two days after the press conference, police came to Luca Taylor's home.

"Let's go."

They even handcuffed him.

*Crack!*

As soon as they came out the door, eggs began flying at Luca Taylor.

"Die!" shouted the people who were rallying.

"You shitty asshole! Would you do that if it was your family who had glaucoma?"

"You're a waste of oxygen! Go die!"

The police pulled away Luca Taylor even more roughly. They were trying to move him to the police car quickly before the angry people caused a scene. Luca Taylor tried to walk fast, but he tripped on something on the ground. It was a pile of garbage. Now that he took a look, he saw a huge amount of garbage in front of his house. The Swiss people had thrown it all over his house. There were curses and swears written on his fence and mailbox.

* * *

Lab Director Kim Hyun-Taek scoffed during his meeting with Lab Director Gil Hyung-Joon.

"CEO Taylor is basically sentenced to death," Gil Hyung-Joon said.

"Ryu Young-Joon lost it and came at me when he heard I destroyed Cellicure even when he was a Scientist who had nothing," Kim Hyun-Taek replied.

Gil Hyung-Joon nodded. "He went to Sunyoo hospital's director and caused a scene because Congressman Shim Sung-Yeol put his mother in the Alzheimer's clinical trial, and then moved hospitals."

"You also heard the news, huh. That guy sticks to research ethics like it's his religion. But someone tried to make a tumor in a patient's eye on purpose with his product? With Ryu Young-Joon's personality, he's going to rip Taylor apart until he's dead."

“There’s no reason for Ryu Young-Joon to be at the front fighting and criticizing him. If that insane technology is true, he just has to sit back and watch until it ends. Public opinion is going to kill Luca Taylor,” Gil Hyung-Joon said.

“That’s right. But to be honest, I am a little worried because A-Bio is getting so big.”

“Are you worried about your future position as CTO?”

“Haha, honestly, I am worried about that too. And Ryu Young-Joon already has a lot of control over A-Gen. Nowadays, the Research Support Center and the Clinical Trial Management Center are just subcontractors of A-Bio.”

“It’s going to get worse now.”

“Probably. That idiot Taylor was trying to crush Ryu Young-Joon, but actually gave him wings.”

Kim Hyun-Taek frowned like this was trouble.

“Haha. But Taylor was actually our enemy, wasn’t he? How much did we fight with Schumatix over patents? Let’s enjoy this right now.”

“Yes, I agree. It’s a problem if Ryu Young-Joon bares his teeth to us, but it’s actually quite satisfying to see him rip apart Schumatix. We surpassed a powerful enemy.”

It was already a very bad situation for Schuamtix as the White House supported Young-Joon, but time was still on Young-Joon’s side. The tumor began disappearing in Ardip’s eye, the patient who became Schumatix’s target. He was transferred to the largest university hospital in India and was currently resting. They had decided to consider methods to remove the tumor, like surgery, if the tumor didn’t disappear after a week of observing it.

And on the sixth day, the size of the tumor was observed to be significantly smaller than the day before. On the seventh day, the size was reduced to half. Now, it was clear as tumors never went away on their own; this was the aggregation of stem cells.

[The cell mass in Patient Ardip’s eye is disappearing.]

[Tumor revealed to be the aggregation of stem cells.]

[Ryu Young-Joon was right: The glaucoma treatment kit was safe.]

New news articles were released from all over the world. Schumatix, who seemed to be recovering from their downfall, began plummeting again.

The result of this fight did not just simply reveal Schumatix's evil acts and destroy them; the support from A-Bio began skyrocketing internationally. He completely convinced people who were doubtful of the first-ever stem cell treatment.

—I want to say that this was a transitional incident in which advances from the old generation to new. Then, what did A-Bio gain from this? They gained an incredible amount of patient's trust.

Professor Shin Jung-Ju of Yeonyee Hospital said.

—Trust?

The interviewer asked.

—Yes. So, it's something like this. Because A-Bio's product was so safe and perfect, a world-renowned competitor like Schumatix tried to make cancer on purpose with that product, but it was impossible. It wasn't like that you got side effects if you were unlucky, but you couldn't even if you tried to induce them on purpose. Because the product is so perfect. It's not just some students, but even Schumatix can't make the side effects happen.

—Wow. Now that you say it like that, it's amazing.

—This is science. This is the advancement of technology and medicine. In my opinion, A-Bio is marking a new chapter between old and new medicine, and the gap between it is huge. And Schumatix advertised that fact themselves.

—I see.

—The White House stood with A-Bio. What do you think this means? The United States has already caught on that A-Bio and Doctor Ryu Young-Joon is the path that leads to the future of medicine. The fact that we have a gift like him in our country is the best luck we've had since Dangun.[1]

The interviewer laughed.

—It seems like you enjoy explaining Doctor Ryu Young-Joon and A-Bio.

—Honestly, it's so fun. It's because this issue was so provocative, but it's also because the things A-Bio is developing right now will reform the structure of medicine. Personally as a doctor, I found this so entertaining. And I'm very excited.

—Hahaha, I know how you feel. But it's not just doctors. I feel that way as well.

—Right? Back to the topic. As I told you just now, this incident proved the safety of A-Bio's product to the world, right? We have to consider the fact that most of the new drug pipelines from A-Bio are probably based on stem cells. Originally, there was probably a lot of worry regarding the safety of those new drugs, but their path was cleared for them.

Shin Jung-Ju explained the situation again.

—I see.

—The countries that had regulations on the glaucoma treatment kit are positively evaluating it and are planning to lift regulations soon. They would have been lifted anyway because clinical trial results were good, but it was fast-forwarded by Schumatix's sabotage.

—Since the main reason for regulations is safety.

—That's right. But if it's so safe that it is impossible to induce cancer artificially, what government in their right minds would regulate it?

1. The Dangun Myth is a story about how Korea was first founded. ☜



Luca Taylor was arrested and Schumatix was rapidly deteriorating. Now, their brand value was less than a tenth of what it was during their prime time.

"We apologize. Our board of directors dismissed CEO Luca Taylor."

The directors of Schumatix stood in front of the reporters and bowed, publicly apologizing. That was broadcast to the entire world, but the people's anger didn't seem to subside. It was because the evil acts Schumatix had done in

the past were too wicked to say that this was just a deviation from Luca Taylor.

They became an international bastard as the issue about them profiteering on Gleevec came out. Gleevec was a treatment for chronic myelogenous leukemia. It was the first new type of treatment for leukemia, which could only be treated by bone marrow transplantation.

—The price for one capsule of Gleevec was one hundred dollars in the United States. If you take one pill per day, that's three thousand dollars per month. Can you believe it? But there are patients who have to take three or four pills a day.

A professor from MIT said on CNN.

One hundred dollars was equivalent to one hundred thousand won. Three million won per month was the price of staying alive. It was a little cheaper in Korea, but the prices were still murderous. Patients have to spend money equivalent to the salary of a small company employee every month on medicine. That's why they did whatever they could, including getting loans, because they would die if they couldn't pay.

Since Schumatix had the lives of patients in their hands and there was no other drug to compete with, they could just choose whatever price they wanted. The Korean government had proposed to lower the domestic price of one capsule, which was twenty-five thousand won, to around eighteen thousand won, but they failed.

—Is this expensive because it is expensive to produce? No, it isn't. It doesn't even cost one dollar to produce a capsule.

The professor said.

—Excluding all the shipping costs and things that occur during the distribution process, the manufacturer, Schumatix, takes more than one hundred times the production cost as profit. What kind of industry is this? For patients, it's the same thing as monopolizing on air or water and selling a day's worth for one hundred dollars. It's the same thing as telling the patients to work hard and give them all the money they earned if they want to stay alive.

—It's a shocking price. Is it because it took a lot of money to develop it?

—Large pharmaceutical companies usually set drugs at a high price for the purpose of getting development costs, but even if it was for that, Schumatix went too far.

The professor said.

—And Schumatix didn’t even put that much money into developing that drug either. It’s because Imatinib, the raw material for Gleevec, was created in university labs. All Schumatix did was just buy the patent and make it into pills, but they monopolized it and sold it at that price.

—Wow. How could they? Did this not get out in the past?

—It did. But Schumatix kept silencing the issue so that it did not get big. But the issue was brought up again.

—I heard that the replicate drug developed in India was a replica of Gleevec.

—That’s right. And Schumatix sued India or countries who imported that replica for infringement of patent rights.

—How shocking. I heard that A-Bio is working on making bone marrow with stem cells. If that technology becomes commercialized, will we live in a world where we won’t need Gleevec?

—Of course. As a fellow scientist in the field, I am hoping that Doctor Ryu Young-Joon will conquer leukemia one day.

*Bleep!*

Young-Joon turned off the television.

—They are talking about you everywhere.

Rosaline said to him.

“Well, it was a big fight.”

—The natural destruction of stem cells was something I taught you before, right

“Yeah. I just changed the differentiation target from spinal cells to optic nerves.”

—You can do it on your own now. I didn't know you would apply that technology like this.

“Are you complimenting me?”

Young-Joon chuckled.

—Yes. But I still want to insist on putting all the board members in a coma. Don’t bother going the long way. Even if we put all of them in beds, it would just be a few thousand people. If we sacrifice that number, you can turn the world into a better place in three years without anything getting in the way.

“I told you I can’t do that.

—Alright. To be honest, the method you chose wasn’t bad either. A-Bio has succeeded in gaining the patient’s trust from this incident. It’s worse than eliminating all the competition and dominating the field, but this is also a gain.

“All you think about is gains and losses, isn’t it?”

—Is anything else necessary? The power that advanced humanity was selfish motives. From a genetic perspective, selfless acts are all inherently due to selfish motives.

Rosaline asked.

“Are you talking about the Selfish Gene theory?”

The Selfish Gene theory posited that people’s selfless acts all came from the selfish motive to spread their own genes. For example, a mother running in front of a car to save their child was not acting in selflessness for their child, but they acted that way because that child had half of their DNA. As she would ultimately be preserving and spreading her own genes to the world if she and her child all lived no matter how severe their injuries were, it was a gamble in terms of genetics that was motivated by selfishness.

—It was just a theory to Doctor Dawkins, but it is a definite truth to me. From billions of years ago when the human animal wasn't human yet, all organisms on this Earth have acted with selfish motives.

“Maybe they did.” Young-Joon nodded. “But there is something about humans that can’t be explained by that. People don’t just act with selfish motives, although it’s probably hard for you to understand.”

—How very interesting. Can you teach me?

“I don’t know if you will be able to understand it even if I explain it…”

—When you met Son Soo-Young, the first glaucoma trial patient, her family, and her newborn’s doctor at your company, I felt your body release a lot of serotonin. I couldn’t understand that phenomenon either. You don’t gain anything from the fact that Son Soo-Young came to see you, but you were very happy.

Young-Joon remained silent.

—Is this what you were talking about? Is something like emotional gains instead of actual gains the motive for the actions you are talking about?

“Well, it’s similar.”

—Very fascinating. I want to feel that emotion too.

*Knock knock.*

Someone knocked on his door.

“Come in.”

“Why are you in the office on a weekend?” Park Joo-Hyuk asked as he opened the door and came in.

“Why are you?” Young-Joon asked.

“A touching surprise visit,” Park Joo-Hyuk said as he spread his arm wide open.

“Wow, how moving.” Young-Joon replied dryly.

“I actually went to your house and you weren’t there, so I came here.”magic

“Why did you go to my house?”

“Do you know that there’s a Ryu Young-Joon fan club?”

Young-Joon squinted.

“There’s a what?”

“You have a fan clu… Pfft!”

Park Joo-Hyuk burst into laughter at the end like he also found it funny. He sat on the edge of the couch and said, “Actually, it’s been around for a while. But the number of subscribers is exploding these days. I signed up for it, too.”

“Why did you join?”

“I’m curious. It was a Naver cafe before, but it got moved to a Facebook group now. There’s a lot of overseas fans.”

“Holy…”

“I’m a bit of an attention seeker on social media, so I went to your house to take a photo with your house as the background because I wanted to set a record for my Facebook likes. That should get me like ten thousand at least, right?”

“Don’t post anything weird, okay?” Young-Joon said, engulfed in intense anxiety.

“I’m debating between a selfie with your living room or your junior high yearbook as the background. Do you remember when you made a fuss about going to the hair salon to get a good photo, and then you ended up with dog fur for hair?”

“Why do you do this to me, huh?”

“Hehe. I just love teasing you.”

Park Joo-Hyuk tapped Young-Joon’s shoulder.

“I’m kidding. I just went because I had nothing to do for the weekend. Hey, you want to take a look at the fan club?”

Park Joo-Hyuk handed Young-Joon his phone. When he looked at it, it was shocking. The Facebook group was filled with posts that had pictures of

Young-Joon that he didn't even know about. There was even a picture of him barging up to the podium during the year-end seminar.

[This was Schu-fighter's prime time. It was so funny seeing the lab directors shut up LOL it was so satisfying to see that]

"Who took this picture…? What department? What is Schu-fighter?"

"The person who fights Schumatix."

"…"

"There's something called the bas-fighter as a side thing too."

"What's that?"

"The bastard fighter."

As Young-Joon scrolled down, there were pictures of him taken at the Integrative Brain Disorder conference and the IUBMB. There were a lot more comments and posts than he imagined. Among them, there was Son Soo-Young. It was a picture of her holding her daughter in her arms and a caption.

[It's almost an honor to be the first patient that Doctor Ryu has helped. I am always rooting for you. Please be the light for more patients like me.]

There were parades of people who were certifying their recovery from glaucoma. There were some posts written by the patients from the Alzheimer's clinical trial.

[I used to take my wife who had Alzheimer's in my passenger's seat. Now, my wife is better, and it's all because of Doctor Ryu Young-Joon.]

Kang Hyuk-Soo, the taxi driver, added a photo of himself in the taxi.

[My wife took this photo for me. Thank you.]

On the passenger's seat, there was a picture of them standing with Young-Joon.

Young-Joon was touched.

—Serotonin is being released again.

Rosalien said as if it was fascinating.

Young-Joon ignored her and kept scrolling down. Of course, the most popular video among the vast amount of posts was the press conference video where he quickly responded to Schumatix's sabotage. There were also a lot of foreigners writing comments as well. From English to Arabic, the comments were filled with languages from a lot of different countries.

—Hyung! Destroy them! Good luck!

There was one comment that had the most likes. When Young-Joon saw it and went into the person's profile, it was someone he knew.

[Yang Dong-Wook]

—Majoring in Biology at Jungyoon University.

"This is Ji-Won's friend," Young-Joon said.

"He's famous in your fan club. He basically worships you like a religion, but you know this guy?"

"He came to help me when I was helping Ji-Won move out of her dorm room."

"Go do a lecture at the school or something. He'll probably cry if you go.

* * *

Young-Joon had some tea with Park Joo-Hyuk in his office. It had been a while. They had been busy for quite a while and jumped over a huge obstacle recently, so they needed time to rest mentally. There was no better way to do that than chat about useless things with an old friend. Park Joo-Hyuk, who was reminiscing about the third grade for about an hour, suddenly brought up an issue.

"Is the U.S. asking for anything?"

"Asking for what?"

"The White House stood on your side and destroyed Schumatix, even using the CIA. They fully showed that they were on Team Ryu, so I imagine there was some kind of favor."

“I’m going to launch a cancer research lab as an affiliate of A-Bio later, and it’s going to be partnered with the National Cancer Institute.”

“That’s what it was?”

“It was just a verbal conversation I had with the director of the Office of Science and Technology when I went to the United States. He said the U.S. would support us a lot.”

“When are you starting?”

“The sooner the better.”

“Then leave this place to me and go there. The Schumatix incident is wrapping up anyway.”

“It’s not done yet. I have things left to do,” Young-Joon said.

“Like what? Park Joo-Hyuk asked.

“I have to cure Ardip.”

“Who’s that?”

“How can you not know? It’s the Indian patient Schumatix sabotaged.”

Ardip was a pitiful man who was born in a prostitution hole and lived in poverty and hardship. After becoming Schumatix’s target and having his face broadcast to the entire world with a tumor in his eye, he was now the main character in A-Bio’s legendary stem cell story. He was a famous star, but none of it was because he wanted it. The only thing he signed up for was the glaucoma treatment because they said it was free.

“Everyone is focused on that person, but no one cares about his health,” Young-Joon said. “Everyone is just watching whether the thing in Ardip’s eye is a tumor or just cell aggregation. They are watching whether Schumatix or A-Bio wins, as if this was some boxing match.”

“...”

“But Ardip went to Schumatix India to treat his glaucoma. And he hasn’t been treated for that yet.”

“Wow… Amazing. That was bugging you while you were fighting with Schuamtix?”

“Ardip’s treatment is as important to me as punishing Luca Taylor,” Young-Joon said. “Whether Luca Taylor retires, whether it was a safety mechanism or tumor, no matter all those things, Ardip has to be cured. Whatever the process was, he was treated with my technology.”

“So, it’s a problem of pride as the creator of the treatment?”

“Yeah. True medicine is to take responsibility for the patient who you started to treat.”

“You’re going to go to heaven,” Park Joo-Hyuk said. “If you don’t go, the only people in heaven will be Jesus and Buddha.”

Young-Joon frowned. “I’m not being nice or anything. This is the norm and the normal thing to do,” he said. “The people who don’t do this are abandoning their responsibilities. Anyway, I’m going to dispatch a trustworthy scientist to India, where Ardip is right now, or bring him here and treat him at our next-generation hospital.”

“This hasn’t been publicly announced yet, right?”

“Yeah.”

“Then can I make a spoiler in your fan club? I think the like count will explode and say that you’re amazing for taking responsibility.”

“No.”

## Chapter 67: The Conqueror of AIDS (1)

Ardip was being treated at Apollo Hospital in Chennai, the biggest hospital in India. They were preparing an important announcement today. The reporters who were called were all waiting in the hospital lobby from early in the morning. There were quite a lot of foreign reporters among them as well. They had an idea of the announcement the hospital was going to give today.

“We have confirmed that the stem cell aggregation has fully disappeared from the patient’s eye today,” said Hospital Director Vichas.

Everyone already predicted this ending when the aggregation shrunk to half its size, but it was a whole other thing to actually confirm that. This was like a declaration of the end of the war between Schumatix and A-Bio. Schumatix's defeat was already marked, but it was now basically publicly determined.

[A-Bio's glaucoma treatment kit is safe. Complete destruction of stem cells confirmed.]

[It does not cause tumors, and the invalid cells are naturally eliminated.]

[Even if a large amount of stem cells only treated with the first kit are put in the eye, they automatically disappear.]

[A-Bio's glaucoma treatment kit does not create tumors.]

As news articles were being written as the announcement was coming out, Vichas gave them a new announcement.

"Additionally, we were contacted by A-Bio a week ago," he said. "A-Bio has promised us that after the activity of the safety mechanism is finished and all the stem cells are destroyed from patient Ardip's eye, they will treat his glaucoma for free."

It was the first time this news was being released. The reporters' eyes widened.

*Clack clack clack!*

The reporters began typing even faster.

"A-Bio has said that they will either send us a technician that can perform the stem cell dedifferentiation and optic nerve differentiation, or they will cover the cost of moving patient Ardip to Korea for treatment and returning him back to India."

*Flash! Click!*

The reporters continuously pressed their cameras.

Vichas announced, "We have accepted A-Bio's offer, and we are in the middle of discussing it with the patient, Ardip. He will go to Korea on the next flight available, and he has decided to be treated at A-Bio. Thank you."

Headlines and news articles began pouring out. This decision of Young-Joon's was quite impactful.

[Even in the midst of a controversy surrounding the new technology of automatic destruction of stem cells, A-Bio never took their eyes off the patient.]

Young-Joon read the leading article in the newspaper as he had breakfast. He didn't even distribute press releases and make a big deal out of it before doing this, but this was what happened.

[A-Bio promises the treatment of the patient Ardip.]

[A-Bio's CEO Ryu Young-Joon takes responsibility for the patient if they were treated by his glaucoma treatment kit, no matter the process.]

Because it wasn't first announced by the company, it had a much more positive effect on the company's image.

—The reason why A-Bio did not announce that they would be taking responsibility for that patient? It's simple. It's because that's the obvious thing to do. When I was conducting the Alzheimer's clinical trial, I met with Doctor Ryu Young-Joon often. He only had two things he was interested in.

Shin Jung-Ju said.

—What were they?

—How the trial was going and if I had any questions for him, the inventor.

—Questions?

—Yes. Doctor Ryu is a classic scientist. He tries to take responsibility for all the data and technology he has put out. If something that he didn't predict happens, he thinks that he has to provide an answer for that no matter how trivial it may be.

—I see.

—To be honest, that's the right thing to do. That's the attitude a true scientist and inventor should have. I believe that is why Doctor Ryu is trying to finish the Indian patient's treatment; it's because that's the obvious thing to do.

—You said it was the obvious thing to do. Are there a lot of people who don't do that nowadays?

—Yes, a lot. I think that scientists in the pharmaceutical industry have lost their craftsmanship. If they get a report that something they developed does not work well, they do not answer.

—Do they just ignore it?

—Yes. Especially large pharmaceutical companies. They just trash data that says that something does not work. As a doctor, when I report the side effects of using the drugs they developed, there will be no answer, and the report of the side effects often does not get included in the pharmacological data they provide. They are deliberately disregarding it.

Shin Jung-Ju said with a hint of frustration in her voice.

—Sometimes, they won't just do that during the data feedback phase after commercialization, but they will do that from the clinical trial phase. They just erase reports about the drug having no effects or having side effects. There are some products from large pharmaceutical companies that don't have their clinical trial data fully disclosed, and that's because they have erased the data that could be unfavorable to the effect of the product.

She continued.

—Ah… Are there a lot of drugs like that?

—A famous flu drug that we all know about is one of them as well. One time, doctors protested to the companies to reveal all of the data.

—Wow. This is shocking.

—Yes. It's obvious, but pharmaceutical companies should not act like this. If there is feedback that there's a problem with the product, or that it failed to treat something, the manufacturer should solve that problem and take responsibility for it. Look at A-Bio right now. This was manipulated by Schumatix from the beginning, but they are taking responsibility because no matter the process, A-Bio's product failed to treat him. Schumatix made the mess, but they are trying to clean it up for them.

—Wow. The more I hear about it, the more amazed I am.

—This is the attitude of a professional. Ordinary people do not know a lot about science or pharmaceuticals, right? When they are hurting and their lives are on the line, they don't really care about what A-Bio did right and what Schumatix did wrong. It doesn't matter to patients; they can sort it out in court themselves, but they just want to be treated. Most of them feel that way.

Shin Jung-Ju said.

—Because they are the only people patients can rely on.

—That's right. What should the patient do if those smart experts are distracted by their fights with each other and abandon them? That is why A-Bio put the focus on the patient.

—You're saying the attitude A-Bio has is that even though it was Schumatix's fault, it was still their product, and they are going to take responsibility for the patient's treatment as the world's top expert in glaucoma within the category of medicine?magic

—Exactly. That's the kind of expert patients really want. I want other scientists and health professionals to really take after the attitude A-Bio has.

* * *

The fight with Schumatix and treating Ardip were both separate things from research. Even if those were happening, the research had to go on; not advancing was not stagnation, but regress.

Even during the hectic situation, Young-Joon continuously advanced his research. Thanks to that, Samuel, the editor of *Science*, was able to get another paper from him.

"The precise editing of target DNA using CRISPR-Cas9…"

Samuel squinted as he read the title of the paper.

"What is this talking about?"

Some technologies that were too powerful couldn't be understood intuitively at once. Samuel began slowly reading the abstract of the paper again in confusion.

"Ahh!"

At the same time, Jessie, who understood the point of the paper a little faster than Samuel, suddenly screamed.

“What the…”

She was at a loss for words for a second from shock, then ran to Sameul at once.

“Samuel! Did you read Doctor Ryu’s paper?”

“I’m reading the abstract right now, but what is this?” Samuel said. “If it wasn’t his paper, I would have trashed it right away. The paper has no animal experiment data, and the data he has is mostly in vitro with one cell experiment.”

Samuel shook the paper in his hand.

“How can he send a paper written with such poor data to *Science*? It’s not like he doesn’t know what kind of journal *Science* is. Maybe he got overconfident because every paper he sent got published? Why did he…”

“Samuel! The thing that this paper is reporting on is a new paradigm of gene editing!” Jessie shouted.

“It does talk about gene editing in the abstract, but I haven’t read the whole thing so…”

“Slowly read through the entire thing. It’s gene scissors that can cut at any location in the three billion base pairs in human DNA. You can cut it however you want!”

“Are you talking about genes when you talk about any location?”

“No. That is also astonishing, but this technology is talking about the entire DNA.”

DNA was a much larger concept than genes. Only about two percent of DNA were genes that produced biomaterials. The rest of the DNA either controlled gene expression or maintained DNA structure.

If DNA was converted into character count, it would be about three billion letters. This was a miraculous new technology that allowed people to find and

edit any location in the huge, natural database of humans that was as big as a library.

Samuel's mouth slowly opened as he read the entire paper. This technology was something bigger than induced pluripotent stem cells. Theoretically, this could cure all the problems in the human DNA: all kinds of genetic disorders and cancer. This technology had the potential to cure all diseases that started from an error in the DNA sequence.

"Oh my God…"

Samuel's hand trembled.

"Read the one cell experiment data they have," Jessie said.

Samuel quickly flipped through the paper and found the data on the cell experiment.

"Editing the gene CCR5 of a hematopoietic cell differentiated from an induced pluripotent stem cell…"

Samuel read the paper.

"They cut CCR5 and destroyed it?"

He tilted his head in confusion.

"You don't remember what that gene is?"

"It sounds familiar."

"It was reported with Timothy Ray Brown. The infection route of HIV."

Samuel felt chills run down his spine.

"Can this technology cure AIDS…"

He gulped.

* * *

After sending the paper to *Science*, Young-Joon announced the technology that would cure AIDS during the bone marrow regeneration team meeting.

“... And so, you can manipulate CCR5 this way. If you enter an RNA that matches the order of the CCR5 gene into Cas9 and put it into a cell, it can find CCR5 and cut it. After the cell corrects the place that was cut, the structure changes and does not work again,” Young-Joon said. “We used this method on the stem cell we got from Doctor Lee Jung-Hyuk and made stem cells with manipulated CCR5, and we also grew that into hematopoietic cells. We confirmed that CCR5 is not made through Western blotting. We think that we can cure AIDS if we transplant this into a patient’s bone marrow, as this is the same cure that Timothy Ray Brown received.”

The meeting room was silent from the shock. Carpentier quietly put down the americano he was drinking.

“Doctor Ryu, you know that this is much more than curing genetic disorders or AIDS, right?”

“Yes.”

“This technology allows gene editing.”

“Yes.”

“In ten years, there might be people who try to edit the genes of IVF babies.”

Young-Joon nodded.

“I know.”

AIDS could be cured if the patient received bone marrow with destroyed CCR5. Put differently, an HIV-resistant baby if CCR5 was modified from the embryo stage.

When Cas9 would be announced, research would surely begin in that direction somewhere with a relatively weak sense of ethics. No one couldn’t stop it; technological advancement would cross ethical borders when given time. The start would be HIV-immune babies, but what if it went further than that? Someone could manipulate the genes that determine height, vision, or skin and create a customized baby. At first, people would be afraid to step forward, but people would eventually try. There would be a huge ethical issue.

Would humanity be able to handle that future? In the case that something goes wrong, huge bullets of criticism may fly towards Young-Joon, who first found the technology.

“That was why I contemplated on revealing this technology,” Young-Joon said.

“But you’ve decided to use it?” Carpentier asked.

“Yes,” Young-Joon replied firmly. “I can’t abandon the people who are suffering in pain from AIDS.”

“This technology is certainly more than shocking,” Carpentier said. “But I do agree with you, Doctor Ryu. I also agree with manipulating CCR5 with this technology and curing AIDS.”

“Thank you.”

“People may cheer now, but there will be people who do weird things with it and if so, religious or various conservative organizations may challenge this technology. They might be a harder enemy to fight than people like Schumatix,” Carpentier warned.

“I understand. There is always light and darkness to great technology. The same knife could be a scalpel that can save patients in a doctor’s hand, or it can be a weapon that kills people in a gang’s hands. It would be nice if this technology was only used safely and in the right way, but some people may try dangerous things too quickly,” Young-Joon replied.

“But everyone, there are thirty million AIDS patients in the world. And the number of patients with cancer or genetic disorders we can treat with the technology is in the billions,” Young-Joon said. “I am not going to abandon people in front of me who are suffering in pain just because I am afraid of an uncertain future in the far future. If a problem happens because of this technology, it will also be science that solves it.”

Chapter 68: The Conqueror of AIDS (2)

“Alright,” Carpentier said. “Doctor Ryu, I fully agree, but I don’t know if our bone marrow regeneration team will be able to do the AIDS cure as well. What do you think, Doctor Lee Jung-Hyuk? Would you be able to take on this project as well as the head of the bone marrow regeneration team?”

Lee Jung-Hyuk was covering his face with his hands.

*'What am I going to do about this workload…'*

Lee Jung-Hyuk finished his undergraduate at Jungyoon University, and he published papers in *Nature* and *Cell* one after another while doing his combined master's and doctorate degree at Stanford. He was originally working as a principal scientist at A-Gen's Stem Cell Department, but he moved to A-Bio. His job was very stable as he had a high salary, and there was a high chance he was going to be promoted to an executive. However, he had moved to A-Bio because he had a desire for achievements as a scientist. He wanted to do important research that would lead into a new generation at a company like A-Bio.

But to be honest, half of that passion had burned away now.

"To be honest, we have a lot of late nights already…" Lee Jung-Hyuk groaned.

Beside him, his team members were quietly waiting for his response. Lee Jung-Hyuk felt like he could hear their voices.

*'Please, sir, please! Help us… Let us go home!'*

"I will increase your salary." Young-Joon made a deal. "And I will also do experiments with you when I have time."

Lee Jung-Hyuk let out a deep sigh.

"Sir, we had no weekends this entire month. Our schedule was Monday, Tuesday, Wednesday, Thursday, Friday, Friday, and Friday. Everyone is working harder than they did during their grad school."

"I know. I will give you a long vacation when this project is over. I will let you get some good rest to make up for it. You can take a couple months off, and I will give you vacation money."

"Really?" Shin Myung-Suk, one of the scientists, raised his head like he was happy to hear that.

This changed everything. Lee Jung-Hyuk's expression changed as well. Now, they were contemplating it, but in a more positive direction.

“I will give you big performance bonuses as well. After this project ends, go on a yacht on the Mediterranean Sea and rest for a month,” Young-Joon said. “I’m sorry that this is all I can give you. I don’t really want to rush you, but if we burn our passion now, we can save one more patient.”

“... Phew. Alright. I would have stayed at A-Gen if I wanted to get good money and do easy research at my job,” Lee Jung-Hyuk said. “Like you said, we can save at least one more person the faster our research ends. We don’t want to take our time doing it either. Scientists should have that attitude.”

“Thank you.”

“And since you are willing to do all that, we’ll focus hard and get data.”

“I will also go to the lab during my spare time,” Young-Joon said.

As soon as the meeting ended, Young-Joon came back to his office and called the Experiment Animal Resource Centre that was part of the Research Support Centre at A-Gen.

“Hello, this is Ryu Young-Joon from A-Bio. I would like to purchase an AIDS model chimpanzee for research.”

As animals like chimpanzees were very expensive, it wasn’t an animal that regular venture companies would be able to try easily; the losses would be too big if it didn’t work out. That was why companies usually slowly experimented with chimpanzees after seeing the effect on small animals like mice or beagles.

But it didn’t matter for Young-Joon. He already knew that the drug would succeed and A-Bio had a lot of money. And it wasn’t difficult to get chimpanzees if he used A-Gen.

There was a reason why Young-Joon wanted chimpanzees. As they were the animal most similar to humans, it was appropriate evidence to take a difficult treatment method like bone marrow transplant to the clinical trial stage. What more experiments would be needed if it was successful in chimpanzees when they are the most similar to humans?

The second reason was because the HIV virus originated from chimpanzees. The name of the virus that infected monkeys was called the simian immunodeficiency virus, or SIV. It wasn’t clear how it came to humans.

Perhaps in the distant past, some chimpanzee saliva splashed into skin wounds of some African tribe while they were hunting chimpanzees.

“When can I get the chimpanzees?” Young-Joon asked the employee at the Experiment Animal Resource Centre.

—We only have five at the centre right now. We’ll bring them to you tomorrow. Would you need more?

“Fifteen more please.”

It had already been proven that they could make hematopoietic cells with manipulated CCR5. Now, he had to get this technology into clinical trials as fast as possible.

*‘If it’s possible, I want to do the clinical trial in a poor country.’*

Another name for AIDS was the Disease of Poverty because the poorer the country was, the higher the risk of being exposed to AIDS. In fact, seventy percent of the thirty-five million AIDS patients in the world were in Sub-Saharan Africa, and the rest of the patients were mostly concentrated in poor countries. As A-Bio had to do a difficult task like bone marrow for this cure, it would be best to take it to an international clinical trial and perform it. That way, it would accelerate the process when the poor countries, the homeground of AIDS, began a full-fledged right against it.

*‘I should look for hospitals or pharmaceutical companies that want to collaborate.’*

* * *

On Friday morning, Young-Joon took the cell culture flask that contained the somatic cells he obtained from the chimpanzee and went to cell experiment lab three. When he walked in, his eyes widened.

“What is this? Hello?”

There were a bunch of scientists in the lab. There were about twenty people filling up the room.

“Like we said, we came here to observe your experiment, sir,” Park Dong-Hyun said.

“Wait… You did ask if you could watch, but you didn’t say it was twenty people.”

“I didn’t expect this many people to come either. I just asked people who didn’t properly learn stem cell experiments to apply, and then forty people did.”

“Forty people? There are forty people who don’t have experience with stem cell experiments at our company?”

“No, they just all signed up. But I can’t stop them when they want to watch… They couldn’t all come in here, so we had to draw names.”

Young-Joon was at a loss for words because of the ridiculous situation whenJacob interrupted.

“Sir, I really want to watch the greatest legend in the stem cell field do his experiments. I was even assigned to film it.”

“Who asked you to film it?”

“Professor Carpentier. He said that we should train new employees with this video.”

Young-Joon’s ears went red.

“It’s just like any other experiment. Well, don’t get too excited.”

Young-Joon sat at the sterilized lab bench. At the edge of the bench, a UV disinfection lamp that was turned on in advance was shining light on the bench for twenty minutes. He turned off the UV lamp and turned on the fluorescent light, then turned on the ventilation option so that dust couldn’t get in from the outside. He wiped the pipettes and liquid culture bottle with ethanol and Kimtech tissues[1] and placed them on the bench. Lastly, he put the chimpanzee cell flask on the bench. Now, he was ready for the experiment.

Young-Joon glanced around. Twenty scientists were dead silent and watching him. Some of them were even taking notes.

*‘What’s with the pressure?’*

“I think Jacob will be better than me. It’s been a few months since I’ve done experiments myself,” Young-Joon said.

“But a legend is a legend,” Park Dong-Hyun said.

Young-Joon sighed quietly, then held up the cell flask.

—Since it’s come to this, let’s show them a proper demonstration.

Rosaline sent a message.

*‘How?’*

—I have watched scientists do experiments several times, and there are a lot of people who do it wrong. Now is a good chance to teach them properly.

*‘Hey, there’s no difference between how they experiment and how I do it.’*

—You are included in the people who do it wrong.

*‘…’*

—Don’t be disappointed. All experiments humans do are inefficient. I will teach you.

*‘How?’*

Young-Joon tilted his head in confusion.

—Please give me control of your two arms for a moment and share your perspective with me as well.

*‘What should I do?’*

Young-Joon thought for a bit, then loosened his arms and put them on the lab bench. He was a little worried, but he was also curious how he was doing experiments the wrong way.

*‘Try it.’*

As soon as he allowed Rosaline to have control of his body, his two arms floated up at right angles like a robot. Then, something shocking began happening in front of his eyes. His two hands began moving like conveyor belts.

When opening flasks, rookies would hold the flask in their left hand and open the lid with the right. But to do that, they had to set down the pipette or suctioning equipment on the lab bench. Doing that created another hand movement in order to pick that up again, resulting in a decrease in work efficiency. But it was possible to open the flask lid with one hand; it was similar to opening a plastic water bottle, although it required some skill. If exactly 1.17 million nerve cells in the left hand were excited, the flask lid would rotate exactly twelve and a half times… Like this.

*Drr! Clack!*

The lid was loosely on top of the flask opening. It didn't fly away, but was just lightly covering the top. The only thing left for Young-Joon to do was grab the opened lid with his left thumb and pointer finger. Like this, he could remove the lid only with his left hand and keep holding it with his fingers.

Now, it was time for the right hand, which had the suctioning equipment, to move. The suctioning equipment wasn't put all the way into the bottom of the flask as it increased the chances of contamination.

Young-Joon began seeing images in front of him. He could see the dead bacteria corpses stuck to the side of the flask.

*'Holy…'*

His two arms moved in a pathway that never crossed the top of the opened flask as microorganisms could fall from his arm and enter the liquid culture.

Like a machine with a well-written algorithm, Young-Joon's arms performed the experiment with the most optimal movements that minimized the chances of contamination. He tilted the flask and put the suctioning equipment into it, avoiding the bacteria corpses as he did it. He removed the liquid culture that was near the entrance of the flask. He quickly lifted the bottle of PBS solution and poured it in the opposite direction of the cell attachment surface of the flask. Usually, it was carefully poured in with equipment such as pipettes in exact measurements, but it was unnecessary for Rosaline's hands. Even if she just poured it in, it was ten milliliters. She didn't have to worry about the cells getting damaged because it was the opposite direction.

After washing the cells with the solution, Rosaline suctioned again. Then, she tilted the tube with trypsin solution and dropped in two milliliters in each flask.

If she dropped in the solution from far away, there was no risk of contamination and it drastically reduced time.

It took Young-Joon forty seconds to treat the cells in the two flasks with trypsin. It took Jacob, who was one of the best in terms of technique at A-Bio, two minutes, and it took Carpentier one minute and thirty seconds during his prime time.

*Clack…*

Someone dropped their pen and notepad.

“Thank… you…” Jacob said. “I did record it, but I don’t know if anyone will be able to do it.”

“You have to be this good to start a company like A-Bio…” Someone murmured.

“Thank you, sir. I learned a lot… Actually, I don’t know if I learned it, but thank you…” said Na Yeon-Woo, frozen in shock.

“That’s it, everyone. Everyone go and do your experiments!” Young-Joon said quickly.

He cleaned up the lab bench with his hands, which he got back control of, and got up.

*‘I’m never going to experiment when people are watching now.’*

* * *

Ardip, the victim of Schumatix’s glaucoma treatment kit sabotage, finally arrived in Korea. Professor Sung Yo-Han, who had joined A-Bio Hospital, was in charge of his treatment. As he was the first person who conducted the clinical trial for treating glaucoma with stem cells, he was the best expert in the field. He brought Young-Joon with him as an advisor for the glaucoma treatment and met the patient together.

“Hello.” Young-Joon greeted Ardip.

The Marathi translator they had prepared in advance translated his greeting. Ardip said nothing.

Young-Joon quietly observed his face as he was keeping his silence with a very tired look on his face. He was stick thin, and he looked a lot older than his early thirties. Young-Joon could feel the tiredness from the rough life he had lived from the aura around him. Ardip would have been cared for well at Apollo Hospital, but he still didn't look well.

*Ring!*

Young-Joon was surprised when a message window popped up.

*'Glaucoma isn't the only issue here.'*

Young-Joon had heard that Ardip had a limp in one leg, but now he knew the reason why.

[Synchronization Mode: Would you like to analyze a stroke? Fitness consumption rate: 1.1/second.]

As Sung Yo-Han read the examination records sent over by Apollo Hospital, he said to Young-Joon, "It says that he has been hospitalized for a stroke before. There aren't any problems other than that he has a limp when he walks due to paralysis in his left leg. It shouldn't matter for the glaucoma treatment, right?"magic

Young-Joon silently stared at Ardip, then said, "Yes, it should be fine. You can go ahead with the treatment. And…"

Young-Joon swallowed his words. The third phase of the Alzheimer's clinical trial was coming up. A stroke was a nerve paralyzing and destroying disease that occurred as a blood vessel in the brain was blocked or burst. It was still a type of neurological disorder. The cerebral nerve regeneration technology used to treat Alzheimer's was also effective on strokes. Young-Joon was actually preparing for a clinical trial for cerebral nerve regeneration geared towards treating strokes or Parkinson's disease.

*'I should have a talk with Professor Shin Jung-Ju.'*

1. A Korean brand for experiment materials ☜

Chapter 69: The Conqueror of AIDS (3)

Professor Shin Jung-Ju from Yeonyee University was getting a kick out of explaining A-Bio's new technology on the radio.

*'But she needs to see some patients now.'*

Young-Joon snickered in his head. He wanted to start the Parkinson's and stroke clinical trials when the time was right. He looked through his phone and found Shin Jung-Ju's number to contact her. When Young-Joon got up from his seat…

"Mala madata kara." Ardip, who had been silent and timid throughout the examination, opened his mouth.

"Help me," the translator said.

"Don't worry. We will cure your glaucoma," Young-Joon replied.

"My glaucoma is fine. I want to ask you for something else. I heard that you can easily fix any disease. Please, I beg you."

"... Are you talking about your paralysis from your stroke?" Young-Joon asked. "Sir, we have treated Alzheimer's during the clinical trial, but we haven't conducted a clinical trial for a stroke yet. There are no treatments that have been commercialized yet. It's not something that I can give you however I want."

"I don't care about the stroke or my paralysis," Ardip said. "Doctor. Please cure AIDS."

"AIDS?"

"The reason I came to Korea is to ask you about this. That's it."

Ardip suddenly stumbled to his feet, then bent his dull leg to bow to Young-Joon on the floor. Surprised, Young-Joon and Sung Yo-Han quickly picked him up from the floor.

"What are you doing!"

"Don't do this!"

Ardip, who was getting back up, repeatedly begged Young-Joon with desperation and tears on his face.

“Please make a cure for AIDS. Please. I don’t have to be able to do anything. I don’t care about the glaucoma or the stroke.”

“Sir, are you suffering from AIDS as well?” Sung Yo-Han asked.

“... No.”

Ardip shook his head.

* * *

The price of living in India was cheap. But the quality of life was that low. Mumbai, the capital of Maharashtra province, was the biggest city in India with a population of twelve million. Their international airports and trade ports accounted for one-third of India’s trades. Rich foreigners came and went, contracts worth hundreds of millions of dollars were signed, and smart cities like Navi Mumbai were also born.

But on the other hand, the largest slum and red-light district in Asia was here. This place was dominated with human trafficking and confinement, violence and disease. In front of the sewer in the dirty alley that reeked of the smell of spices of multinational food and the stench of household garbage, Ardip was born. His mother, who carried all kinds of chronic diseases, died as soon as she gave birth to him. Ardip, who was born with misfortune, grew up by running errands for the gang members who managed the red-light district. Suffering daily from beatings, malnutrition, drugs, unsanitary conditions, and diseases, Ardip collapsed from a stroke when he was around twenty. He got a limp in his left as an aftereffect, and he was abandoned by the gang after losing his vision to glaucoma.

Then how was Ardip, who was born with nothing and was now disabled, able to survive in the slums of Mumbai? It was thanks to the help of the prostitutes in the red-light district. They were friends of his mother, whom he didn’t even know; they had fed him, bathed him, and raised him. Some were women his age who had been raised with him. Some were girls who were struggling to adapt because they were new. To Ardip, they were his mothers, aunts, significant others, and siblings.

Ardip, who was abandoned by the gang, went to the small home the women secretly made for him in the small corner of the red-light district. The women got a handful of food once a day; they each took a spoonful of their own food and fed him. They did it for six years.

That was until Ardip came out to the city himself after hearing that Schumatix India was providing treatment for free.

It was not because those women were extremely humanitarian or nice; it was because the weak who were on the edge had absolutely nothing. The only thing they had was someone who would hug and embrace their hurting bodies and kindness. The women didn't think they could bear the loss they would feel if they lost Ardip. That went for him as well.

"They were the people who took me to a hospital when I collapsed from the stroke… They are family to me," Ardip said. "But they are all suffering from AIDS. They don't have a lot of time left. They haven't received any kind of treatment. And I heard AIDS is an incurable disease."

Wiping his face, which was already dirtied with tears, Ardip repeatedly bowed and begged Young-Joon.magic

"I am getting a lot of compensation from Schumatix. I will give you all of it. I have a lot of money. I don't have it right now, but I heard that I am getting a lot. Doctor, please. You don't have to fix my glaucoma. Please just do something about AIDS. You are a genius who can cure any disease."

Young-Joon slowly rose from his seat.

"We are already developing an AIDS cure," he said.

As soon as the translator delivered the message, Ardip's expression brightened.

"But I'm afraid I won't be able to live up to your expectations. It is still in preclinical stages, and it will take a long time because there are a lot of clinical trials to go through until commercialization."

"..."

"And even if the cure is finished, it will take more time to be supplied because it will be very expensive."

Ardip collapsed to his knees helplessly. There was a moment of heavy silence.

Young-Joon glanced out the window. He felt all kinds of emotions. Ardip didn't move at all as if he just froze on the floor.

"You will receive treatment for your glaucoma. During that time, you may be encouraged to apply for a clinical trial treating paralysis caused by strokes," Young-Joon said. "That is something separate from the glaucoma treatment, and it has nothing to do with the development of the AIDS cure. So, if you receive a suggestion like that, do not think about anything else and just listen closely to what that treatment is. You must fully understand it and think about it for a long time before deciding."

* * *

"Is there a better way?"

Young-Joon, who returned to his office, undid his tie in frustration.

—What is the problem?

Rosaline asked.

"This is something I've thought about from a while ago, but curing AIDS using stem cells is too expensive. Even if we do the research as quickly as possible and commercialize it, the cure itself is too expensive," Young-Joon said. "It's the best strategy in that it can completely cure it, but it requires the best doctors and intensive experiments done by scientists. The process of harvesting a patient's bone marrow, manipulating the genes, verifying that it was done correctly, and transplanting it back to the patient's body is too difficult."

—You can do it easily at the next-generation hospital.

"You can. But that next-generation hospital doesn't exist in poor countries. It doesn't even exist in developed countries right now."

—That's right.

"That method is the best choice, for sure. But is it also the best that we can do?" Young-Joon said. "Only rich patients of developed countries with good

health care will be able to get the cure. But where would the women from the red-light districts that Ardip was talking about get bone marrow transplants? The other name for AIDS is the Disease of Poverty. Most of the patients are poor people living in poor countries."

—That's right.

"I was originally going to get support from their governments and partner with the WHO to treat it extensively," Young-Joon said. "But to be honest, that will take a long time as well, and I don't know if governments in places like Africa will actually respond."

Young-Joon sat in his chair with his fists clenched. He was almost angry at the feeling of helplessness and defeat.

Destroying a disease like AIDS wasn't easy even with the help of Rosaline. It wouldn't be difficult if his goal was to treat a couple people, but could he be satisfied with bringing people from developed countries to Korea, curing their AIDS, and getting a lot of money from it? The ultimate goal of this treatment should be to cure all AIDS patients, resulting in the extinction of the human immunodeficiency virus; eradicating the virus forever in human history, just as smallpox was eradicated. But the method they had right now was too difficult and time-consuming.

—Then let's look for a different way.

Rosaline said.

"A different way?"

—Let's run a few different simulations. Although you have to consume fitness in order for me to provide it to you.

Young-Joon thought for a moment, then asked Rosaline after thinking of something.

"You're not going to suggesting anything weird this time?"

—Something weird?

“Something like putting the officials into a vegetative state in order to gain the cooperation of African governments, or making a bacteria that makes oil and threatening them with it.”

–Because you don’t like those kinds of methods.

“That’s right.”

—But it’s odd. You mentioned those methods first even when I didn’t suggest them.

Rosaline said.

—You wouldn’t have even imagined it in the past.

“Maybe we’re getting more similar to each other as we are getting synchronized,” Young-Joon said with a chuckle. “To be honest, the things you said before don’t sound all that crazy anymore. I don’t know if it’s because I’m crazy or if it’s because the world is crazy.”

—You are not wrong.

Rosaline said.

“But you said I was frustrating before?”

—In the past, yes. But now I don’t think that. There is something I felt from the Schumatix incident. It is something that I analyzed before, but…

“What is it?”

—Humans are not originally animals that can accept me.

Rosaline said.

—Imagine if Luca Taylor had me.

“Ugh. It’s horrific just thinking about it.”

—From that day, all the executives from pharmaceutical companies will die. And someone like Luca Taylor would artificially create a fatal virus, spread it, and then monopolize the cure for it. He would rule the world in three years.

“Someone like him is fully capable of doing something like that.”

—I am searching for the reason for my creation. And why a second Rosaline cannot be created in the same way. That moment is a mystery to me.

“It’s a mystery to me too.”

—The vast amount of ATP in your blood created me, but I am starting to think that it might have not happened if it wasn’t your blood.

“...”

—A frustratingly extreme and obsessive sense of ethics. Maybe it is not possible to balance out this power without a sense of morality like that.

“... Thanks, but to be honest, I have corrupted a lot. I’ve felt it for a while. I put pressure on politicians when catching Ji Kwang-Man, and…”

—I think that is probably because of your synchronization with me, but your current sense of ethics is still far superior than the average human’s. If you let go of all of your ethics that are limiting my power, the world will face a great upheaval. I can even prevent humans from dying.

“Holy…”

—But what if only the top 0.1 percent of wealthy people will be able to live forever because that procedure has astronomically high prices? What if they live for three hundred years, monopolize the immortality technology and dominate the world? What if there becomes a life gap instead of a wealth gap? Can humanity right now accept that kind of society?

“I, for one, am worried.”

—If I present that technology, someone like Luca Taylor will not hesitate to fast-forward that society because he is part of the top 0.1 percent. But you won’t. You will think so hard about it in your room that your head will explode.

—I think that the reason or purpose of my existence may be connected to that.

*Bleep!*

A message popped up.

[Synchronization mode: Analyze eighty-two treatments for AIDS. Fitness consumption: 4]

“What is this?” Young-Joon asked, baffled, as he read the message.

—At my level right now, the only option to cure AIDS I can see right now is marrow transplantation.

Rosaline said.

—But life-sustaining treatment is possible. Some drugs are available at a much lower price compared to bone marrow transplants, so they can keep AIDS patients alive. It’s just like a diabetic patient getting insulin shots.

*Bleep!*

[Synchronization Mode: Analyze seventeen HIV vaccines. Fitness consumption: 4.4]

—And you can also make vaccines. You will be able to stop the spread of AIDS by vaccinating people with this. Since it is useless if AIDS spreads to two people while treating one patient with a bone marrow transplant, you can vaccinate people without HIV to make them immune and start from there.

—You can use prevention, life-sustaining treatment, and a cure all at once. With a strategy like this, you might be able to eradicate HIV through international cooperation. It also doesn’t violate our ethics.

“...”

Young-Joon felt kind of moved.

“I never thought I would feel moved by a cell.”

—If you’re grateful, just take a shot of ATP after.

“What does it feel like when I take it?”

—I get a little buzzed and I feel good.

“... Alright then.”

Young-Joon pressed the message in Synchronization Mode. He began to write an email as he looked at the chart floating beside him.

[Plan for the Eradication for the Human Immunodeficiency Virus project.]

The recipient was Tedros. They had exchanged business cards when they met at IUBMB. He was the Director-General of the World Health Organization.

## Chapter 70: The Conqueror of AIDS (4)

On Sunday at two o'clock in the afternoon, Park Joo-Hyuk was going into the A-Bio building. He had left something there on Friday. As he was walking past the office, he saw that the lights in the CEO's office were on.

"On a Sunday?"

When he knocked on the door, Park Joo-Hyuk heard a dying voice.

—Come in.

"Hey what? Why are you here?" Park Joo-Huk asked as he walked into the office.

"I had a lot of work to do," Young-Joon replied feebly and collapsed on the couch.

Park Joo-Hyuk, who was walking toward him, stopped in his tracks.

"Hey, that sweater you're wearing. Weren't you wearing that on Friday?"

"That's because I haven't gone home since then."

"You lunatic. Why aren't you going home when you have a nice apartment? You look sick! Go home man. What the hell are you doing?"

"..."

"What is all this? Why do you have stacks of papers?"

Park Joo-Hyuk picked up the papers that were on the table and couch.

"Treatment 1, Treatment 2, Treatment 3, Vaccine 1, Vaccine 2… What is all this?"

“I don’t have the energy to explain all of that. I just worked on about a hundred chemical molecules. I was seeing how they match with the ones that have already been developed and strategizing on what would be a good way to use it…”

Park Joo-Hyuk gathered up the papers and stacked them on the table. He dragged Young-Joon out.

“Get up. Just go home. Something’s going to happen to you if you keep working like this. You always stay late during the weekdays, so you need to get some rest during the weekend at least.”

Young-Joon waved his hand like he was tired of hearing it.

“Ugh. Just let me be. And stop nagging me. My head hurts from listening to someone nagging me a hundred times to take care of my body.”

“Who’s nagging you?”

“Someone. A noisy one…”

Young-Joon glanced at the dozens of messages floating on top of his head. They were messages that read, “Warning. Warning. Warning.”

“I’ll go home in two hours,” Young-Joon said to Park Joo-Hyuk.

“Why two hours?”

“That’s when I have to draw blood from the chimpanzee.”

“...”

“I’m checking in four hour intervals to see if the virus is there. After I’m done with this, I should be less busy from Monday.”

“You’re probably the only person who draws chimpanzee blood on the weekend as a CEO.”

“I… guess so.”

“So all you have to do is draw blood from the chimpanzee?”

“Yeah.”

“Then I’ll do it for you. Go home.”

“What are you talking about? How can you do it?”

“You have to teach me. It seems pretty easy. You just have to stab the needle in, draw it out, and that’s it, right?”

“Like how you just need to memorize the law and take the test to be licensed as a lawyer?”

“...”

Park Joo-Hyuk scratched his head.

“Anyway, you need some rest. You’re ugly as is, but your face looks even worse now that you’re so tired.”

“If you’re just going to talk nonsense, just go.”

“Just tell people below you to do it. Don’t spend the night alone and go overboard.”

“Everyone from the bone marrow regeneration team came today as well. They are in an emergency as well.”

“Wait, that team is the reason you stay up all night and come to the office on the weekends? That team is always here late, too. What on earth are you doing there that everyone has tunnel vision?”

Massaging the back of his neck, Young-Joon sat back up.

“We’re doing something monumental for human history.”

“What is it?”

“We are going to eradicate the human immunodeficiency virus and get rid of AIDS forever.”

Park Joo-Hyuk kind of froze.

“Is that possible?”

“Well, obviously not quickly. It will be a very big, long-term global project. We are going to need a huge amount of vaccines and treatments. It’s a lot of work just to produce it, and… No matter how much international cooperation I get, it’s going to take a few years to completely eradicate HIV.”

“I think the fact that this is a matter of time is a revolution itself. You’re permanently eradicating an infectious disease that was incurable. Does it matter that it’s going to take a few years?”

“But to be honest, it’s going to be really hard. And there might be a lot of resistance as well.”

“You’re eradicating HIV. What kind of lunatic would resist?”

“A lot of people. For example, pharmaceutical companies that used to sell AIDS-related drugs, religious organizations that rejected bone marrow transplants, or conservatives that worry that people’s sexual activity will become promiscuous once the drug gets released.”

“Hm…”

“But this is something that is doable even with that risk, and it is something that should be done.”

“Because you’re destroying an infectious disease.”

“Right. Even if there are ten defenders standing in front of the goal post, I will take the shot if they are going to give me one hundred points for just one goal.”

Young-Joon picked up the documents.magic

“And we can do it. We’re going to tackle it head on with science, just like we’ve been doing before, and eventually eradicate HIV.”

“…”

“Anyway, do you have time on Thursday next week?” Young-Joon asked Park Joo-Hyuk.

“Why?”

“The Secretary General of the World Health Organization is coming. Let’s go together.”

Park Joo-Hyuk’s jaw dropped.

“Because of the HIV eradication project? You’re big enough to be able to tell someone like that to come and go?”

“Of course not, dude. I just told him that we should meet since he’s visiting Korea.”

“Where are you meeting him?”

“The Conrad.”

“Okay. I’ll clear my schedule.”

*Knock knock.*

Someone else knocked on Young-Joon’s office door.

“Come in,” Young-Joon said.

Doctor Lee Jung-Hyuk opened the door and came in. He looked even worse than Young-Joon, and his dark circles came all the way down to his chin.

*‘Wow. He looks brutal.’*

Inside, he felt sorry for him, but was also a little touched.”

“Oh, Attorney Park, you were here too. Hello.” Lee Jung-Hyuk said hello.

“Hello.”

“Should I come a little later if you are discussing something with Doctor Ryu?”

“No, it’s fine. I’ve discussed everything that I need to. Please come in.”

Park Joo-Hyuk turned to glance at Young-Joon.

“I’ll be on my way.”

Then, he mouthed to Young-Joon as he was closing the door on his way out.

*‘Go home.’*

Young-Joon secretly gave him an OK sign.

* * *

On Monday, Young-Joon ran the PCR machine to determine whether the DNA of HIV existed in the chimpanzee’s blood.

[3 hours 40 minutes]

The machine showed how much time was left. After checking that, Young-Joon went to the conference room. He had returned to being a frontline scientist and was doing experiments himself, but he was still in a position where he had to oversee the progress of all the research being done.

The next meeting was a collaborative meeting with Celligener, the company that was developing Amuc, a treatment for diabetes.

“It’s been a while, Doctor Song.” Young-Joon greeted her as he walked in.

“Hello,” Song Ji-Hyun said. For some reason, her voice seemed a bit gloomy.

“You weren’t in our meetings for a while right? I heard you were on a business trip overseas.”

“Yes. I was in India.”

“India?”

Young-Joon was surprised as he was fighting Schuamtix in India regarding Ardip just last week.

“Where in India?”

“Navi Mumbai.”

“*Cough!*”

Choi Myung-Joon, who was beside her, choked and coughed.

Navi Mumbai was where Schumatix India was located.

“You were in an internationally famous place,” Young-Joon said.

“Yes… I was,” Song Ji-Hyun replied.

“Why did you go to India?”

“For an investment. Thanks to you and the IUBMB, we were able to connect with a millionaire in India and a few pharmaceutical companies. So I went with our CEO for business meetings regarding investments.”

“I see. When did you get back?” Young-Joon asked.

“I got back last evening.”

“Then, you went to work right away and came all the way to this meeting?”

“Yes.”

“Hahaha. We’re staying up nights and coming to work on the weekends, but I see that it’s also pretty bad for you too. No wonder you seem to have no energy today,” Young-Joon said.

Song Ji-Hyun smiled. There was actually a different reason why she seemed so down.

When she was in Navi Mumbai, she had caught on early to Schumatix India’s suspicious behavior. It was before Ardip’s glaucoma treatment incident blew up. She wanted to collect more specific data and give it to Young-Joon as she had received so much help from him. She tried to get some useful information by going to Schumatix India and meeting doctors and patients, but it didn’t go well.

Then, the situation started to rapidly unfold in a violent way. Schumatix attacked Young-Joon by reporting a tumor, which Young-Joon destroyed straight on with a shocking new technology, and the CIA moved as the White House gave an announcement.

What could Song Ji-Hyun, a scientist at a venture pharmaceutical company, do in a large-scale incident like this? In Navi Mumbai, the center stage, she felt extremely helpless. She wanted to repay what he had done for her, but she couldn’t do anything. She felt like nothing. She was happy that A-Bio got through this crisis, but she couldn’t help but feel a little sad.

“Doctor Song?”

Snapping back into it, Song Ji-Hyun quickly raised her head.

“Oh, sorry. What did you say?”

“It’s not about our meeting right now, but if you met a lot of pharmaceutical companies in India, did you ever contact a company that works on an AIDS treatment?” Young-Joon asked.

“An AIDS treatment? There was, but why?”

“Would you be able to introduce me to them?”

* * *

The HIV eradication project was going in three methods. First, a bone marrow transplant to cure AIDS patients one by one. Second, a life-sustaining treatment to stop the progression of AIDS in the patient. Lastly, a vaccination that stopped HIV from spreading to other people.

The first and last method required the development of a new drug, but the drugs that would be used in the second method were already developed. But like what happened with Gleevec, there was a lot of profiteering. The treatment for AIDS that cost about a million won in Korea cost about fifty thousand won to make. As such, poor countries like Africa couldn’t use the treatment and died.

Then did India pharmaceutical companies that fought like hell with Schumatix from cloning Gleevec leave that expensive AIDS treatment alone? They obviously replicated the treatment and mass produced it. Thanks to that, ninety percent of the AIDS treatments used in developing countries were from India. As developing countries had most of the world’s AIDS patients, almost fifty percent of the AIDS treatments in the world was being supplied by India. Their nickname of being the World’s Pharmacy didn’t really seem like an exaggeration.

But there were still people in poor countries who died because they could not use the treatment. Even those drugs, which were drastically cheaper from evading patent rights, were still too expensive.

Then what could be done? They could lower the price of the treatment. Rosaline was also capable of finding ways to create drugs. If Young-Joon designed a good strategy based on that, it could completely change the production process and dramatically lower the cost of production. From what Young-Joon calculated by staying up all night, he found that it could be reduced to less than one-thousandth of the previous cost.

The only thing left to do was to find a company to produce this drug. Of course, it would be best to find it in India as they have already been mass-producing and supplying it. Young-Joon could complete the entire process, from manufacturing to distribution, by finding a few good pharmaceutical companies and forming a technology alliance with them.

But the best part about this, better than the others, was that this didn't require a clinical trial because it wasn't a new drug; it was just changing the production process of an existing drug. Young-Joon would be able to commercialize it just with a bioequivalence test.

"There's a company called Karamchand Pharmatics," Song Ji-Hyun told Young-Joon. "They are one of the largest pharmaceutical companies in India, and they mass-produce the treatment for AIDS. They probably make about seventy percent of the treatment that goes to Africa."

"Oh, really?"

Young-Joon stood up in excitement.

"Could you give me their contact information?"

* * *

After the meeting ended, Young-Joon came back to his office and did a little research on Karamchand Pharmatics. The company certainly wasn't bad.

[Plan for the Eradication of HIV Project]

Young-Joon sent Karamchand Pharmatics an email similar to what he sent Director-General Tedros. They didn't have to participate in the meeting at the Conrad, but Karamchand Pharmatics made a tight schedule after hearing that there was a chance to meet Tedros.

On Wednesday morning, the day before the meeting, Karamchand Pharmatics sent a few people to Seoul. It was Sachet, the CTO, and three key scientists.

And at ten o'clock the next morning, they arrived at the conference room at the Conrad. When Sachet and the scientists went inside, there were already about ten people inside. A slightly thin young man greeted Sachet and his group.

“Hello. My name is Ryu Young-Joon.”

“Sachet. It is an honor to meet you.”

The two of them shook hands.

A large man with a large belly approached Sachet.

“Hello. I’m Tedros, the Director-General of the WHO.”

After briefly introducing themselves, Young-Joon turned on the monitor.

“I only briefly mentioned this in the email I sent you that I want to discuss the HIV eradication project. I will begin the actual presentation now.”

Sachet nodded as the translator delivered Young-Joon’s message. Tedros took a sip of water. The achievements that Young-Joon had shown thus far had been so great, and the reason they had come all the way here was because of the paper on CCR5 manipulation technology and hematopoietic cell regeneration that was recently published in *Science.* But this was the first time they were hearing in detail about the strategies and technologies he had.

“We developed a technology that cures AIDS through bone marrow transplantation. We want to cure all AIDS patients with this,” Young-Joon said.

“But it will not be able to follow the speed of the infection,” Tedros pointed out.

“I know. That is why we are going to stop the spread by making a vaccine.”

“Vaccine?”

The scientists in the room all froze. This was a shock.

*‘A vaccine? Was AIDS a disease that they could make a vaccine for?’*

But even before the shock from his sensational proposition could wear off, Young-Joon played his next card.

“And I would like to use the drugs produced at Karamchand Pharmatics to stop the progression of the disease in already-infected patients. But the output is highly insufficient for the number of patients. Karampia, the AIDS treatment that is being produced right now, takes about a month to make. Through a process that consists of thirteen steps,” Young-Joon said. “I will show you a method to produce that in thirty-six hours with two steps. The reagents required for production are also drastically reduced, so the production cost will be less than 0.1 percent of the present cost.”

“What?!” Sachet screamed in shock. “0.1 percent? How is that possible?”

“Originally, you were chemically synthesizing a thirty-seven-unit complex by connecting them one by one, right? You can use the polymerization system in yeast cells to do that at once. I will show you how to do it in detail.”

“...”

“If both of you could help me, we can completely eradicate HIV from this Earth. Please join me,” Young-Joon said.