James Jungkue Lee – Founder & CEO, Bridge Biotherapeutics, South Korea

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James Jungkue Lee, founder and CEO of Bridge Biotherapeutics, explains his strategy for risk mitigation in running a virtual biotech start-up. He also offers his insights into the company's partnership strategy and shares his opinion on why Korea will become a global leader in biotech.

Bridge Biotherapeutics is the third company you have founded, so what has been your strategy to ensure the success of the ventures you are involved with?

Biotech is a very risky business, so risk mitigation is one key to success in our industry. The experience I gained during my time at LG Lifesciences greatly helped me in finding different ways to mitigate risks.

One such approach is to license the drug candidate compound, as the drug discovery processes are very complicated. Our strategy is to begin with a selected molecule to avoid these processes and start with the preclinical and clinical development.

The second method is to select a compound with multiple indication potentials. We usually test many indications in parallel, to find out what the best indications are for the compound. Having more clinically relevant and promising indications raises the chances of success and hence mitigates the risks. Nevertheless, we cannot change the molecules themselves and there is always

a risk of only focusing on one specific molecule. This brings me to the third way of mitigating risks, which is building a portfolio with more than one compound. It is important to work with more than one molecule as they all have unique risk profiles. Our first compound, BBT-401, is a potent and first-in-class inhibitor of Pellino-1, on which only Bridge is working. While this brings the advantages of being the only company in the field, it creates the issue of forcing Bridge Biotherapeutics to go through the whole pre-clinical and clinical regulatory process, which of course brings risks. Therefore, we have our second compound, which is a potent best-in-class candidate, diversifying our portfolio and mitigating the risk.

Overall Bridge is currently working with four different compounds in areas of unmet medical needs, BBT-401 in Phase 2, BBT-877 in Phase 1, BBT-176 in preclinical development and BBT-931 at its late discovery stage.

You describe your business model as a virtually operated venture-backed biotech firm. Could you explain to our international readers what this means for Bridge's business model?

Bridge Biotherapeutics is a Korea-based biotech company, but after licensing out our assets, we started to develop our compounds on a global level, mostly in the USA. We are currently working with multiple preclinical or clinical CROs in the US, China and Europe, that conduct preclinical or clinical development with our compounds. We heavily rely on the work of CROs, with which we trust and have long-lasting relationships. To assure the quality of development activities, we are very careful when picking our CRO partners, as they have to align with our business model.

What is your overall strategy in terms of sourcing the right partners?

Throughout my career, which I started off as a researcher and later led me into the business development area, I developed a broad network throughout the whole life sciences industry both domestically and internationally. Instead of formal partnerships, I rely on small groups of networks, which may have an interest in my business. Building relationships is, therefore, our most important way of finding partnerships. Recently, Bridge Biotherapeutics signed a $40 million licensing agreement with Daewoong Pharmaceutical for the co-development of one of our compounds. I met my business development manager from Daewoong three years ago as they have been on a different project together back then, so we know each other's strengths and ways of working very

well. Our partners know that Bridge is differentiating itself extremely from other companies and has a high-quality product with excellent compounds.

You have a subsidiary in the US – JLABS@TMC, based in Houston. What is the strategy behind forming standalone business operations in the USA?

The reason for choosing Houston as our basis for the US subsidiary was the proximity to the MD Anderson Cancer Center. We are working closely with the centre to fully illustrate the molecular mechanism of action of the Pellino proteins in immunity, and we were very fortunate to be able to find a location so close to the centre, which allows us to cooperate very closely. Recently, a professor of the centre has also been working for Bridge Biotherapeutics, which obviously facilitates the exchange and the collaboration with this renowned institution. While the world nowadays is very connected, there is still the need for a physical presence at times. Hence, we have decided to build up an affiliate in the US, to complement our headquarters in Seongnam, South Korea. From our experience, these two presences have allowed us to develop excellent networks and collaborations in the respective region.

How attractive is the Korean biotech scene for foreign investors, compared with start-ups in other regional hubs, such as China or Japan?

While there are many countries in Asia promoting biotechnology, China, Japan and Korea are the three outstanding examples, due to their size and talent. Japan has a very high quality of science, however, they significantly lack entrepreneurship, which becomes obvious when looking at the number of Japanese biotech companies – under 100. Hence, it comes as no surprise, that big pharma companies are dominating the biotech market in Japan. China, on the other hand, has a nearly infinite amount of capital and talent, so Korea cannot compare with the country on these factors. Nevertheless, Korea has a very unique position in the market as the ecosystem for biotechs is excellent. From the early 2000s onwards, Korea has developed a very strong and sophisticated financial sector, which provided the perfect foundation for the biotech industry. Additionally, Korean universities have high standards, which is shown by the steep number of quality researchers in the country. Despite our small size, we have an excellent regulatory framework, capital, and remarkable talent. This makes the Korean biotech scene a highly attractive target for international investment.

Nevertheless, current investment in the industry is coming mainly from domestic funds. There is a clear trend of more international investors coming to Korea, but it is a process which takes several years. Venture capitalist companies tend to operate on a very local level, so it is naturally harder to attract investors from Europe or the Americas. Biotechs in the early stages are quite fragile; hence venture capitalists prefer to be in very close contact with the company which is easier on a regional level. Korean investors are becoming more international, as they start investing in Israel and the USA, establishing networks in these countries. The hope is that in this way, investors from these countries will come to Korea. Bridge Biotherapeutics is a good example of how networking can attract investments, as one of our board members is a venture capitalist from Boston. Through him, we have developed valuable connections within the Boston region, which is a leading global area in the biotechnology field.

As you are aware, the 4th industrial revolution is something of a hot topic in Korea at this time. Where do you see the potential for Korea, as an innovation hub in the life sciences industry?

For Korea, it has always been a matter of how to survive between China and Japan and it’s no different in the life sciences industry. There is a long history of biotechs in Korea, dating back to 1987 when the Korean government introduced a new patent system, which forced the pharma companies to create own molecules. After the first wave of Korean biotechs, namely LG Chem and SK Biopharm, the second wave in the 2000s saw many university professors starting own biotech companies. Through this experience, we have cultivated a social and financial system that serves this industry. Unlike in China, there are not many Korean sea turtles: professionals that have received their education elsewhere and then have come back to their country to start a business. In Korea, more than 70 percent of biotech companies are started by entrepreneurs with a Korean education background. Having excellent education and research facilities compared with a strong homegrown biotech industry makes Korea a strong innovation hub in the life sciences industry. This becomes very clear when looking back ten years. Back then, most of the Korean companies focused on generics while today the focus is, without doubt, on innovation. Looking into the future, the main players in Korean healthcare will be the biotech companies along with the pharma companies.

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