

Introduction

to

Genolution

Position: Intern

Duration: 2. Jan – 29 März 2017

Working Hours: 9 am – 6 pm

Layla Isabel Rohkohl

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Foreword

Language Choice:

Dieser Erfahrungsbericht bezieht sich auf ein Praktikum im Ausland, zur Voraussetzung eines solchen Auslandsaufenthaltes ist das Beherrschen der Englischen Sprache. Die Autorin dieses Berichtes hielt es daher für angebracht, diesen Bericht in dieser Sprache zu verfassen.

Purpose:

This guide has been drafted with the intention to serve as a starting aid to other foreign interns who come to work at Genolution. For efficiency and an increase in productivity, this guide aims at giving you a quick and simple overview of Genolution.

Self-introduction:

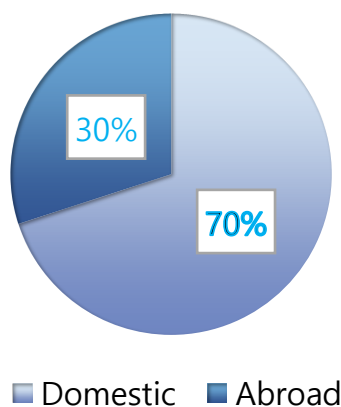
My name is Layla Rohkohl, and I have worked myself from January to March 2017 at Genolution. My insights can hopefully be an inspiration and guide to you.

Some basic facts first:

- ✧ **AgroRNA and Genolution are the same company:** Currently (March 2017), there are two websites which belong to Genolution. I have heard Koreans mostly use the first, foreign customers the second website to place their orders for dsRNA specifically. Take a look to learn about the company, its history, and the range of products it offers.

- <http://genolution1.com/>
- <http://www.agrona.com/index.html>

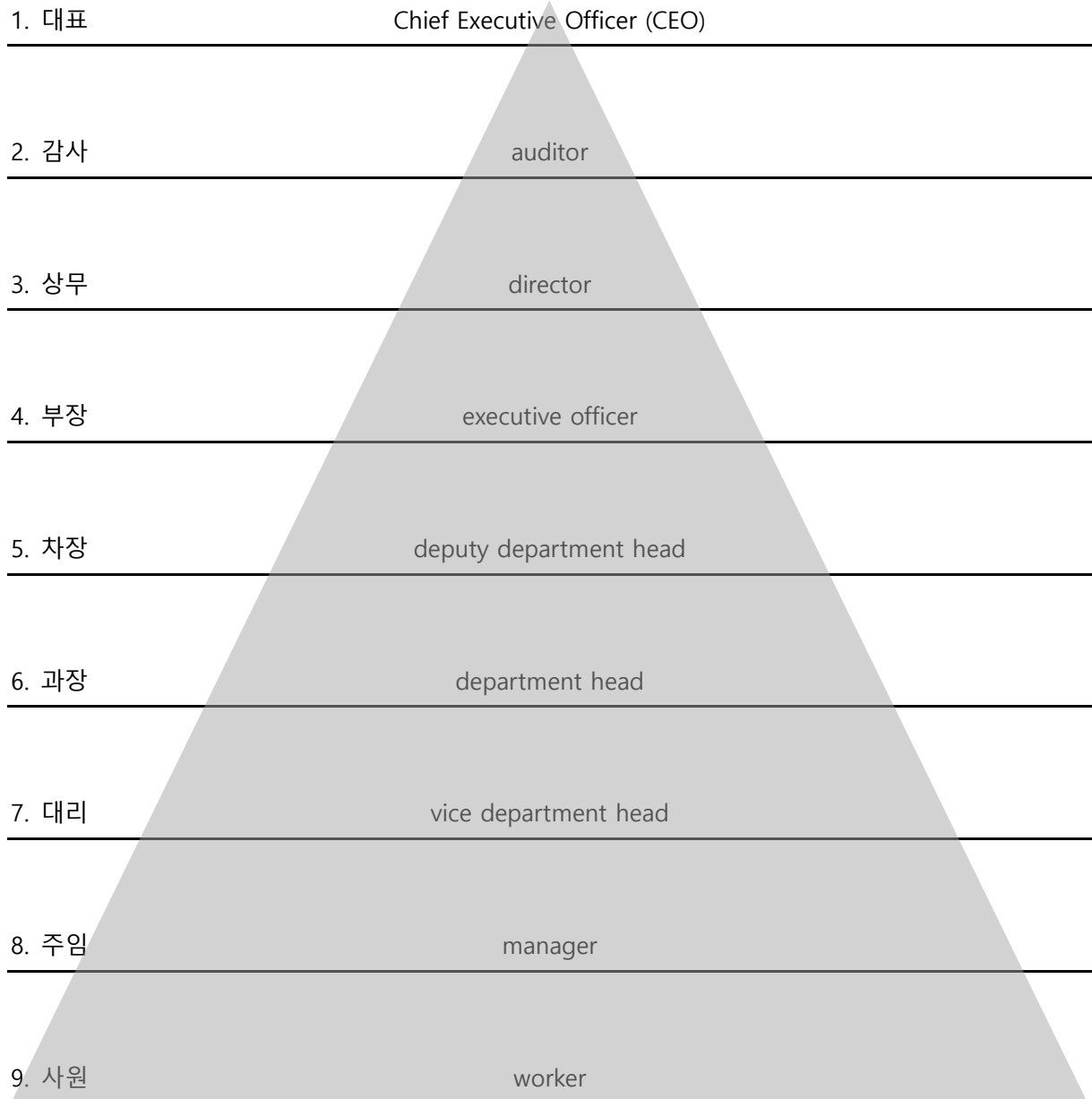
Worldwide Sales



✧ **The reason why I was hired:** Genolution has started operations in Korea, but is expanding overseas as well. Its permanent staff members are all experts in their field; I as the foreign intern was responsible for being the helping hand in making the start-up company expand globally. – *Game start!*

Although Genolution is a start-up company, it has already expanded abroad and plans to further increase their international sales. International medical conventions play an important part in this plan. Some examples are the MEDLAB 2017 in Dubai

Hierarchy



Although you may have heard that the hierarchical structure is an integral part in the Korean culture, Genolution supports an atmosphere of flat hierarchy in order to ensure smooth transactions between the workers. For example, all of the researchers have a background in science and gone through a long and extensive education process to get where they are now, therefore, the team managers tend to treat each other with equal respect by called one another "teacher" (선생님). However, there are exceptions to this flat-hierarchy phenomenon as well when it comes to the perseverance of respect (and distance) to higher-ups. For example, when it comes

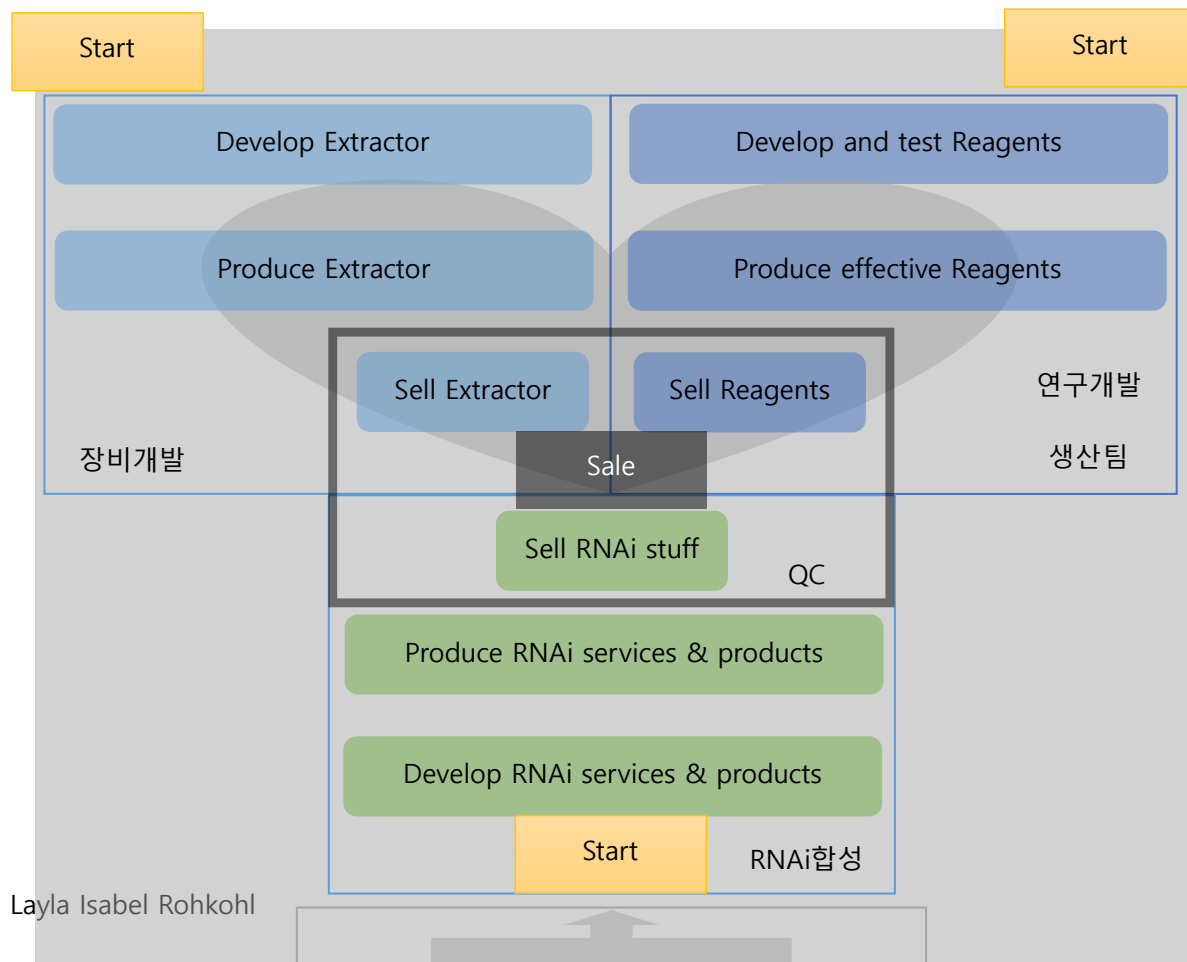
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Products

Genolution is active in **two main business areas**:

- ① Products and services related to **RNAi** (RNA interference). Those offerings are exclusively domestic and are handled by the RNAi team alone. Only dsRNA is offered for customers abroad through the beforementioned [AgroRNA website](#). Plans for globalizing the other RNA products do not exist at the moment.
- ② **Molecular diagnostics devices**, specifically, nucleic acid extraction instruments and the corresponding reagent containing kits. These two go hand in hand. The basic idea is that DNA and RNA can be extracted from samples, such as saliva, blood, or urine, and then analyzed to make diagnoses for example regarding STD. The instruments, called Nextractor (Next Generation Extractor), along with the kits enable an efficient and automatic extraction process of DNA or RNA. They are sold also abroad, and further expansion plans are in place.

See below for how the general products are made and sold:



Customers

The Client Base can be divided up as follows for all the products and services offered:



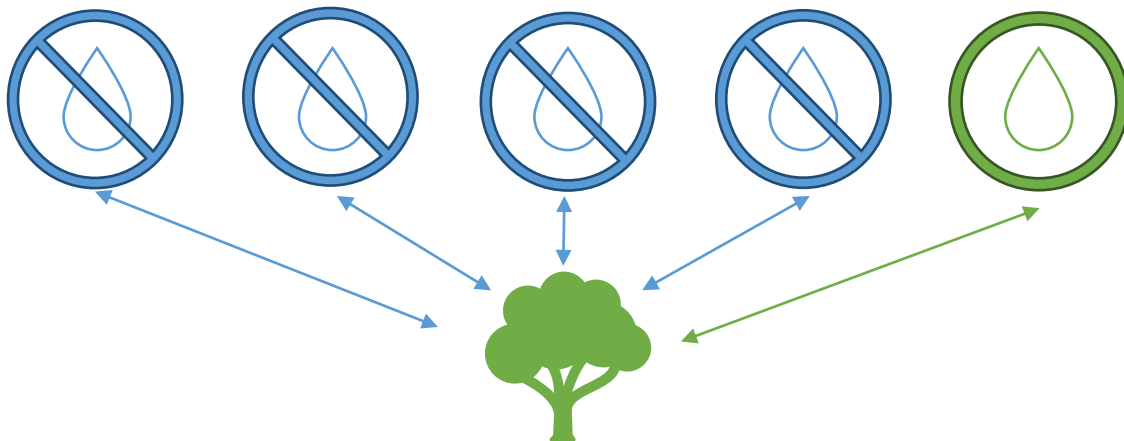
Genolution advertises and promotes their products through two channels so far:

- ① The **websites**.
- ② **International Exhibitions.** Those international exhibitions are a vital part of the marketing strategy abroad as they present a golden opportunity to meet not only direct clients but also potential distributors, who then act as importers of Genolution's products abroad. I had the pleasure to work on a draft of a distribution agreement, which gave me in return the opportunity to get to know the general idea of doing business abroad in more detail, for example how pricing strategy and other terms and conditions are used to attract business partners and what kind of services and support Genolution provides for such business partners. Travel is therefore a major expense for Genolution, as the attendance of such conferences or exhibitions is integral to doing international business. Just to name a few examples of such activities: MEDLAD in Dubai or MEDICA in Germany for several years in a row now. I also had the chance to attend the KIMES in Seoul during my stay at Genolution and was invited to attend the MEDICA 2017 in Düsseldorf this year as well. So far, they do business in China, Japan, Italy, Romania, and the USA. Future markets include Germany among others. When it comes to deciding in which direction research and development should go next, seminars also come into play; one such topic was for example NGS (Next Generation Sequencing), which is one of the possible downstream applications of extracted DNA, with the other being PCR (Polymerase Chain Reaction).

Teams

R&D Team:

This team is in charge of developing and checking the reagents (lysis solution, washing solution, and elution solution) and their compatibility with the samples (blood, urine, stool, etc.). After developing an effective combination of reagents to a specific sample to extract DNA/RNA from, the production team will then be in charge of actually preparing and producing the tested reagents, that is, filling them into the well plates and storing them into boxes to complete specific kits (RV kit, STD kit, etc.) that will then be shipped off to the customer. I sometimes helped in the preparations for experiments, for example by preparing the materials needed and sorting pipette tips. I was also asked to cooperate in the creation of an advertising video, especially when it came to the subtitles in English.



Testing the compatibility of different reagents with a plant sample to extract the DNA from

Production Team:

After the R&D team has developed and tested the reagents for their effectiveness, the production team is in charge of making reagent kits that serve as complementary products to the Nextactor device. If you think about it in business terms, the Nextactor is an investment good, and the kits serve as consumable goods that need to be repurchased after using them once. Manuals and protocols are provided, and I was tasked with checking the existing English versions and translating new manuals for extraction kits currently still in the development phase.

Lysis Solution



Washing Solution



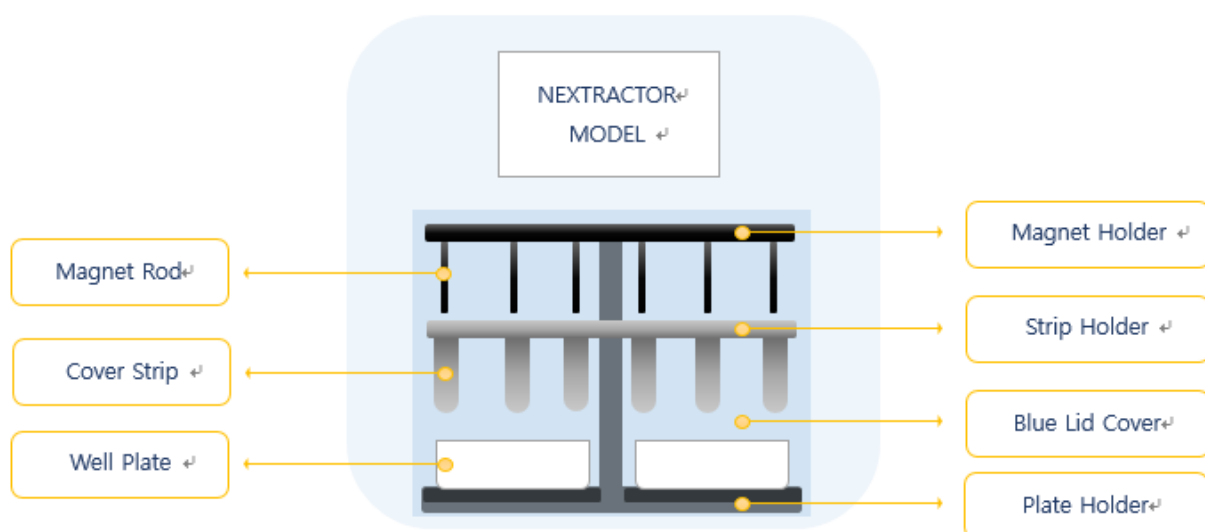
Elution Buffer



The three reagent solutions for the extraction and purification of nucleic acid with the use of magnetic beads

Device Team:

This team is in charge of developing, improving, selling, and maintaining the nucleic acid extraction instruments. Currently only the NX-48 (for the 48 samples it is able to extract nucleic acid from in one run in 10 minutes) is for sale, but the development process for the new NX-Junior is underway and further plans for an upgraded version of the original, the NX-48H (H for heating as an extra and useful function), are being considered. The manufacture is still internalized and a safety stock level of the products is kept at all times. Manuals, such as Use for Instruction and the Service Manual for repairs, are also available. I was charged with creating such a service manual after seeing how the repair and replacement is done correctly. Furthermore, the translation of a risk management report also fell under my responsibilities.



General setup of the NX-48

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RNAi Team:

As I mentioned before, the RNAi team is responsible for everything, starting from the procurement of supplies, to the actual shipment of the finished products and the A/S service, related to RNAi. Examples of products include siRNA, miRNA, shRNA, and dsRNA. Examples of services being offered are miRNA purification, cloning, and RNAi effect validation. I was asked to check protocols in English, and I must admit, I was truly thankful for taking biology as one of my five major subjects in high school. Still, I had to research quite a bit before completely grasping what was going on. Furthermore, I offered my services as a translator for specific replies in email form to FAQ which were not covered on the website, and I also participated in a survey creation.

Administration Team and Management:

If the other teams so far represent the actual flesh of a body, the administration and management would represent the skeleton structure and the head of a body. They deal with daily calls and emails and work to ensure smooth business transactions. I received a request to create a useful guide to taking English phone calls including common expressions and responses to a variety of situations. In general, I was also called from quite a few of my co-workers when a phone call came in from a foreigner. Emails that had to be written in English and other correspondence went through me as well. I also took the liberty to check other brochures and advertising material and was included in discussions involving, for example the creation of a new product brochure, including the layout, design, and wording of said document. As you may have noticed, English was key, and so I ended up acting as an English teacher to my co-workers by annoying them with daily English quizzes – but also providing simple solutions and extensive explanations.

Closing Remarks

I took an entrepreneur class in school, but now that I have seen the dynamic life of a start-up in action, I must say the experience and knowledge acquired are by far more noteworthy. I was introduced to this opportunity by Professor Han who also accompanied me when I first visited Genolution for an interview with the CEO Mr. Kim, the CFO Mr. Seok, and the auditor Mr. Na. I was very lucky to have been presented with this possibility, and I want to thank all of those who made this possibility a reality once again. As a small company with 18 people when I started out, and 21 people when I left, their aspirations for expansion are evident. Working closely together in a pleasant environment while learning to understand the whole business in greater depth can be the best thing one can hope to gain from such an internship. Furthermore, gaining such insights is more likely at a small firm than a well-established already globalized company, which is why I regard my internship as the perfect stepping stone into the business world. I am thankful for all my coworkers for spending the last three months together and can promise them I will not be able to forget my time at Genolution ever. Working in various fields with a great variety of things to do was not only refreshing, but also fun and exciting.

Other **facts** I forgot to mention:

- ① The **office space** is light, spacious, and clean (aside from my desk of course – unfortunately, I can blame no one but myself for this) equipped with finger scanning software at the entrance, floor to ceiling windows, air conditioning, plants and an air humidifier. I had my own desk and comfortable chair that could lean back around 45 degrees.
- ② The **materials** I needed were supplied to me for free, such as a calendar (actually two), pens and highlighter, paper, a USB stick, memo notepads, toothbrush and toothpaste and cosmetic products (as they were being provided as a sample product from another company to all people in the office), and access to a computer, though I brought my own laptop from the start.
- ③ Special **benefits** included that each employee, even me as an intern, got 6.000 won as lunch money each day separately from our wages in addition to free snacks, including ice cream, tea and coffee at our convenience. And yes, this internship was paid around 800.000 won a month.

To sum it up, I really enjoyed my time and would like to thank everyone who made it possible for me to make this valuable experience.

Layla Isabel Rohkohl