Chapter 1

Introduction

1.1 Host Institution Description

Founded in 1946 by King Gojong of the Joseon Dynasty, Seoul National University (SNU) became the first cross-disciplinary university of independent Korea with nine colleges and one graduate school. SNU was the unification of ten higher education institutions located throughout Seoul with the goal of fostering a learning environment where intellectual elites can guide and lead the newly liberated nation.

Today, SNU boasts fifteen colleges and twelve graduate schools with over thirty thousand students scattered across its four campuses – Gwanak Campus, Yeongeon Campus, Pyeongchang Campus, and Siheung Campus. Currently, SNU holds the 29th position in the QS World Rankings and is placed 11th in the rankings for institutions within the Asian region. With their motto: “A community of knowledge and creativity leading the world” – SNU aims to foster converged global talents, to build an innovative knowledge ecosystem, to create knowledge-based social values, and to establish a foundation for sustainable university development.

One of SNU’s most prominent hallmarks is its research unit, unquestionably spearheading intellectual revolution and promoting global development. SNU dominates other universities with its current 4272 research projects and 3220 research papers – all subsidized by SNU’s countless state-of-the-art research facilities. Some of their research highlights include “Harnessing a paper-folding mechanism for reconfigurable DNA origami” by Professor Do-Nyun Kim, “Targeted degradation of α-synuclein aggregates in Parkinson’s disease using the AUTOTAC technology” by Professor Young Tae Kwon, and “Association of antibiotic use with risk of lung cancer: A nationwide cohort study” by Professor Sang Min Park (Seoul National University, 2023).

SNU's organizational structure consists of the President, the executive vice presidents, the board of trustees; organizations – educational organizations, deliberative bodies, advisory bodies, and administrative organizations; facilities – supporting organizations, research institutions, and affiliated facilities; and institutions – affiliated schools, relevant incorporations, and others.

1.2 Department Description

The laboratory of medicinal chemistry, branched under the new drug development center, which is led by Professor Lak Shin Jeong (LSJ) focuses on creating promising biological tools and biopharmaceuticals to aid the development of third-generation modified nucleic acids including selenium as well as first and second generation modified nucleic acid investigations targeting enzymes and receptors. With over 200 SCI (Scientific) papers published on the synthesis and development of modified nucleic acids, Professor LSJ's laboratory is globally known for its eminent research capabilities in first and second-generation modified nucleic acid research (CampusWeb, n.d.).

The intern was assigned under postdoctoral researcher – Dr. Sushil Kumar Tripathi, where she worked alongside him every weekday from 09:30 am to 18:30 pm. The laboratory members consist of two postdoctoral researchers (Dr. Sushil Kumar Tripathi and Dr. Vikas Aswar), four Ph.D. students (Kim Min Jae, Choi Hong Seok, Jeong Mi Suk, and Kim Seung Woo), five combined Master's and Ph.D. students (Kim Gi Bae, Park Jeong Hoon, Sung Ki Soo, Yeom Yuna, and Song Ji Yoon), and two Master's students (Kang Seung Yeon and Yang Ayeon).