

Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) Catherine Kim

Title of Project Co-administration of Atorvastatin Blocks CYP3A4: Exacerbated Risk of Interstitial Lung Disease

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☒ Yes ☐ No
- a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.

b. If yes, complete questions 2–5.

2. Is the student's research project a subset of your ongoing research or work? ☐ Yes ☒ No
- Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.

3. Describe the independence and creativity with which the student:
- a. developed the hypotheses or engineering goals for the research project

Catherine developed her research idea regarding interstitial lung disease (ILD) as an adverse drug event (ADE) of statins based on previous discussions in the lab into testable hypotheses. Moreover, Catherine proposed to examine pathways associated with statin-induced ILD and to study the binding of other compounds to cytochrome P450 (CYP) enzymes. Overall, Catherine determined the goals and scope of her study.

- b. designed the methodology for his/her research project

Catherine immersed herself in literature in order to design and employ suitable bioinformatics and statistical approaches to evaluate the ADE of ILD as a result of the administration or co-administration of statins. While Catherine was new to computational and statistical tools in my lab, within days, she learned these techniques and continuously applied various methods in order to solve problems that she faced during the course of the project. When necessary, she modified or wrote algorithms for statistical calculations. Catherine was independent in accessing various databases and designing the methodology to examine pathways associated with statin-induced ILD and to study the binding of compounds to CYP enzymes.

- c. analyzed and interpreted data

Catherine independently performed the analyses and interpretation of computational and statistical results. Catherine was initially taught how to access databases and run algorithms for statistical calculations. Within a few days, Catherine was able to independently collect and analyze computational and statistical data to evaluate ILD as an ADE of statin administration or co-administration. Catherine was also independent in analyzing and interpreting data to propose pathways potentially associated with statin-induced ILD and to examine binding of other compounds to CYP enzymes. Catherine was highly proficient in data analyses and interpretation.

(Continued on next page)

Regulated Research Institutional/Industrial Setting Form (1C) Continued

Student's Name(s) Catherine Kim

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

After initial training, Catherine was able to independently perform the computational experiments in order to statistically examine the adverse effects of statins either alone or when co-administered with other compounds. She also employed bioinformatics approaches to identify pathways potentially associated with adverse effects of statins. In addition, she applied computational methods to study the binding of compounds to cytochrome P450. Overall, she collected and analyzed the data independently.

5. Did the student(s) work on the project as part of a group?
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

☐ Yes ☒ No

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable.
I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Nicholas Tatonetti

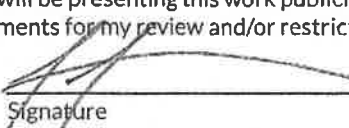
Supervising Adult's Printed Name

Columbia University

Institution

Department of Biomedical Informatics, Department of Systems Biology, & Department of Medicine,
Columbia University, 622 West 168th St. PH20, New York, NY 10032

Address


Signature

Associate Professor

Title

08/28/19

Date Signed (must be after experimentation) (mm/dd/yy)

nick.tatonetti@columbia.edu / 212-305-9104

Email/Phone