

## 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) Shourav Saha

Title of Project The Role of YY1 in the Modulation of the Podocyte Molecular Phenotype in High Glucose Milieu

### 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  

The student helped to develop the hypothesis of the experiment by researching the relevant literature and helping to draw a conclusion that formed the basis for his hypothesis (that YY1 could play some role in the molecular phenotype of podocytes due to its presence as a marker of cellular proliferation and its expression in other kidney cell types).
  - b. designed the methodology for his/her research project  

He used previous papers that were published from the lab to adapt his experimental methodology. He learned the basic procedures for molecular dynamics (his computational methodology) from his mentor, and designed the rest of the methodology.
  - c. analyzed and interpreted data  

He conducted quantitative and qualitative analysis of computational data using established methods of analyzing trajectories from molecular dynamics simulations. The student conducted qualitative analysis of experimental data, by comparing the expression patterns of proteins in Western blotting experiments. Both procedures were conducted in full by the student.

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

Student's Name(s) Shourav Saha

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.

The student performed all of the computational studies relating to his project, including sequence retrieval, protein structure modeling, and molecular dynamics simulations and analysis. He performed the experimental studies, specifically podocyte cell culture and Western blotting, on his own. He initially observed how to perform the experimental procedures before the start date of the experiment, and initially had some help when performing said procedures; however, he quickly transitioned into handling the procedures independently.

The student collected and analyzed the data independently of his mentor, through analyzing his Western blots and his molecular dynamics trajectories. He independently calculated the RMSD, RMSF, and radius of gyration, among other analytic calculations, of his molecular dynamics simulations.

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

The student worked alongside and learned from a post-doctoral researcher, Dr. Alok Jha, who advised them on a path to follow for computational studies and mentored them in experimental procedures.

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.

DR P. C. Singhel

Supervising Adult's Printed Name

Signature

Dr.

Title

Feinstein Institute for Medical Research

Institution

350 Community Drive, Manhasset, NY 11030

Address

1/10/2019

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

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