Project log – week 45

Analysis of new Olink proteomics data from S3WP: toward multi-omics integration

Overview

The data is accessible, and data protection regulation was reviewed. I am starting with initial data exploration and QC. Literature research and method exploration have been continued.

Summary of activities and deliverables reached

- Recurrent meetings with my supervisor María Bueno Álvez
    - Discuss in detail about the prior research and the importance of this project
    - Review project plan to update with deliverable results
    - Data transfer and handling
- Project activities
    - Data access and training in data protection regulation
    - Review the R code from previous publications
    - Analyses brainstorm
    - Initial data discovery

Summary of results

No results are available yet.

Reflection task

This week's reflection task is about the form of supervision in my project. My supervisor and I have agreed that the main communication means are to have weekly meetings to update about the project's progress. Besides, we discuss via Slack whenever needed, e.g., when I have a quick question that can be explained via text. I find this form of supervision suitable for me because the weekly meeting serves as a summary of what has been done during the week, what to do next week and if additional support is required. Moreover, I work at my own pace, with my personal laptop so instant messages for small discussions via Slack are effective. With María, we have discussed this supervision form and both agreed on it.

Updated project plan

The project plan remains unchanged with corresponding deliverable results per step (table 1).

Table 1. Project plan

Tasks	Deliverables	Week										
		44	45	46	47	48	49	50	51	52	01	02
Literature search	Understand the research topic via prior publications	�	▪					▪	▪			
Method exploration	Discover and test essential R packages for the analysis	▪	▪									
QC & pre-processing	QC and normalization for batch/technical bias		▪	▪								
Platform comparison	Compare data from Olink Explorer (3) and (new) Olink HT		▪	▪	▪							
New proteomics analyses	Multivariate analyses, protein correlation across longitudinal samples, pathway enrichment				▪	▪	▪	▪	▪			
Result interpretation	Visualization of the analysis result					▪	▪	▪	▪			
Presentation	Half-time and final presentation						▪				▪	▪
Report	Project report									▪	▪	▪

Reference

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(2) Tebani A, Gummesson A, Zhong W, Koistinen IS, Lakshmikanth T, Olsson LM, et al. Integration of molecular profiles in a longitudinal wellness profiling cohort. Nature Communications [Internet]. 2020 Sep 8;11(1). Available from: https://doi.org/10.1038/s41467-020-18148-7

(3) Zhong W, Edfors F, Gummesson A, Bergström G, Fagerberg L, Uhlén M. Next generation plasma proteome profiling to monitor health and disease. Nature Communications [Internet]. 2021 May 3;12(1). Available from: https://www.nature.com/articles/s41467-021-22767-z

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