

R Final Project - Group 11

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Introduction

- ▶ **Dataset:** MiRNA expression in squamous cell carcinoma and adenocarcinoma of the esophagus and associations with survival.
 - ▶ Cancerous and noncancerous tissues.
 - ▶ Cancer stages.
 - ▶ 100 ADC and 70 SCC patients.
 - ▶ North American and Japanese cohorts.
 - ▶ Other variables (tabacco, alcohol)
- ▶ **Objective of the project:** To reproduce the findings of the authors and elaborate on their visualizations.

Materials and methods

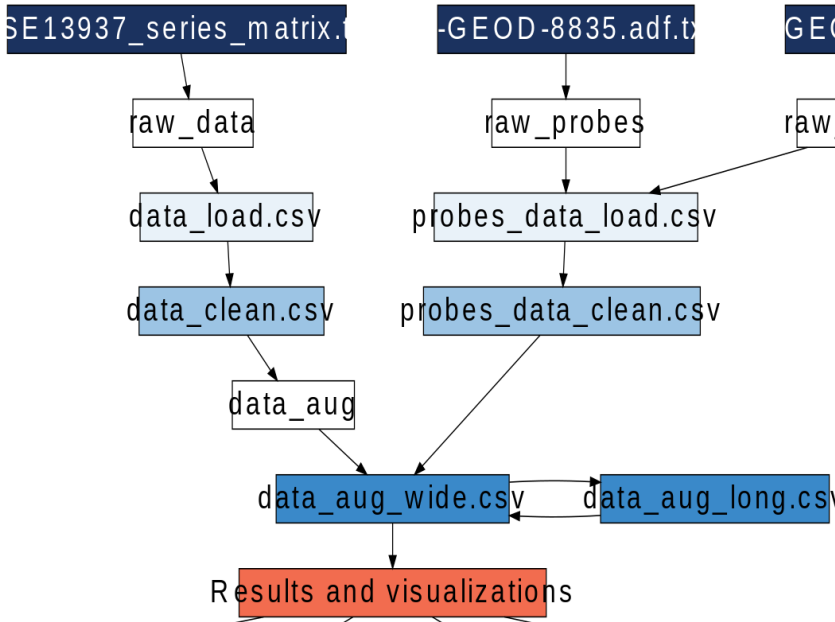
Patient data:

- ▶ **GSE13937_series_matrix.txt**
- ▶ National Center for Biotechnology Information website (<https://www.ncbi.nlm.nih.gov/geo/query/acc.cgi?acc=GSE13937>)

Microarray information:

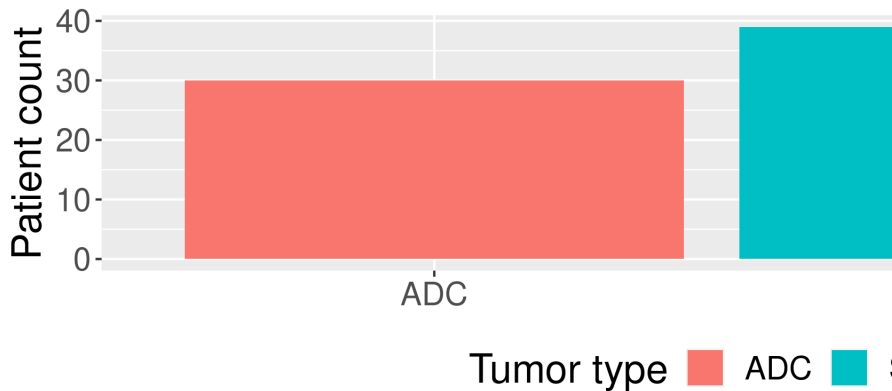
- ▶ **A-GEOD-8835.adf.txt** and **A-GEOD-8835_comments.txt**
- ▶ European Bioinformatics Institute website (<https://www.ebi.ac.uk/arrayexpress/arrays/A-GEOD-8835/>)

Materials and methods | Flowchart of the development process



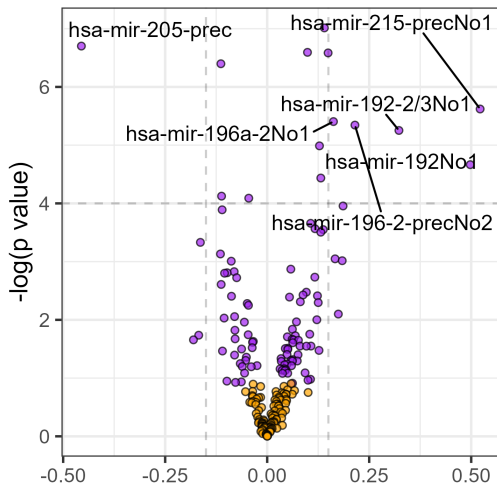
Results

Surviva

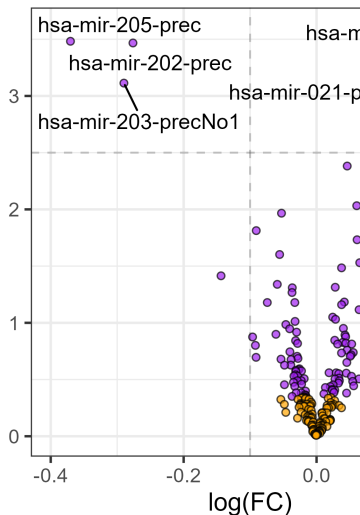


Results

ADC vs. SCC
(cancerous tissues)



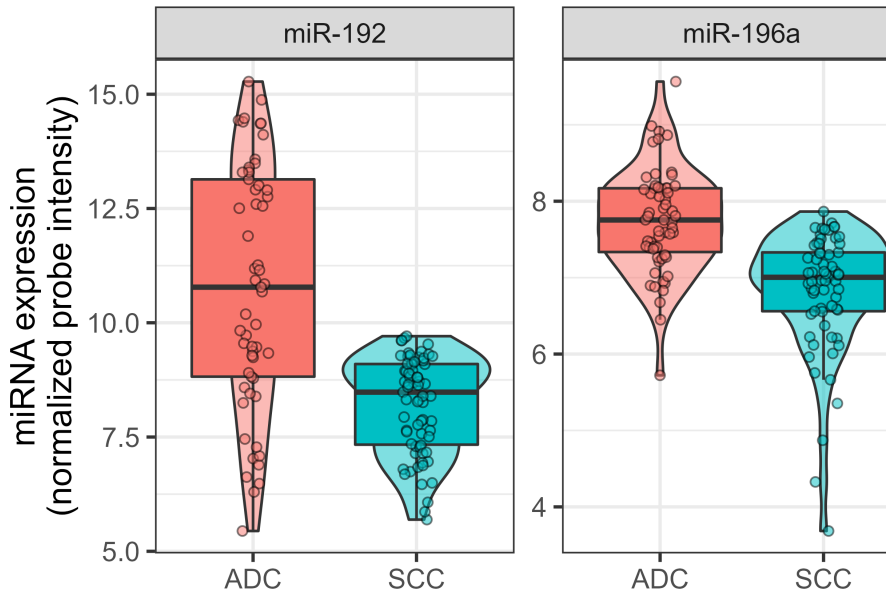
Adenocarcinoma
(cancerous vs. non-cancerous)



Significance ● Not significant

Results

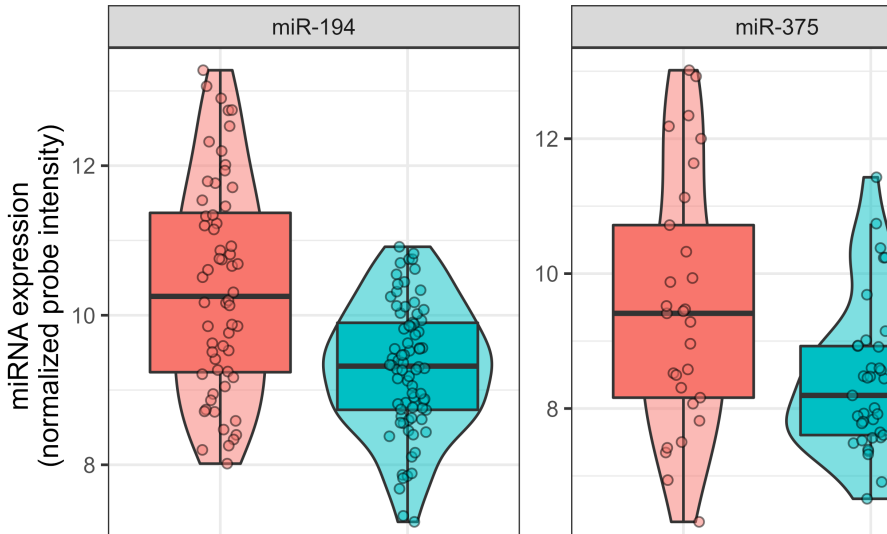
SCC vs ADC (cancerous tissues)



Results

SCC vs ADC (cancerous tissues)

Differentially expressed miRNAs from Math? et al.



PCA analysis



Discussion

