

# Breast Cancer

Stage-Specific Biomarker Detection for Different Stages

## Meet the team



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Results interpretation and  
Communication



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Data Collection and  
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Data Analysis

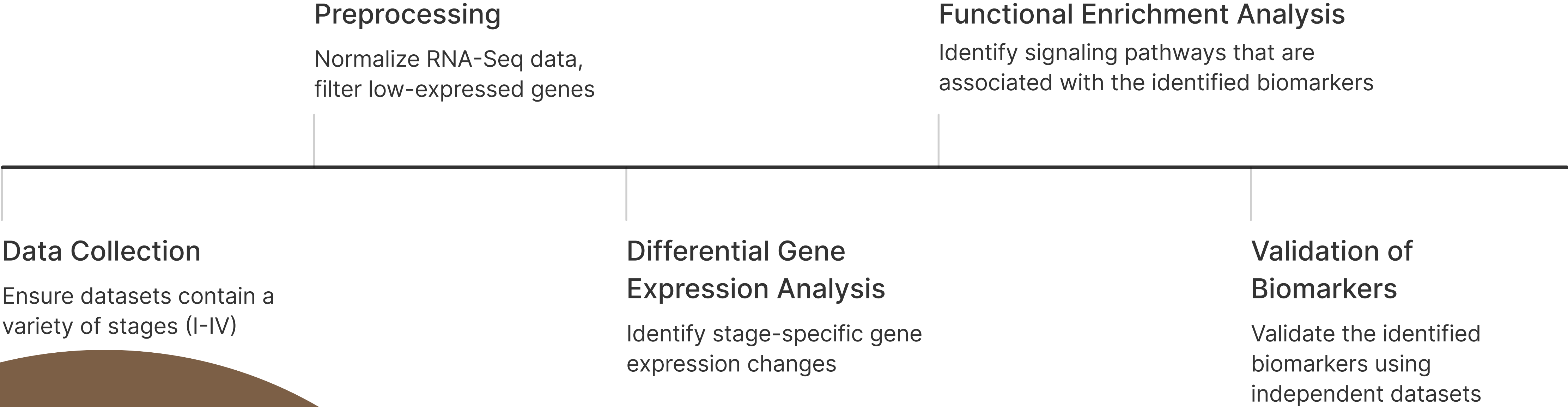
## Introduction to the problem

Breast cancer is a heterogeneous disease, with clinical behavior varying across stages. Stage-specific biomarkers are critical for improving diagnosis and guiding personalized treatment strategies.

We aim to identify and validate biomarkers that can distinguish different stages of breast cancer by analyzing transcriptomics data. This will enable better diagnostic tools and potentially novel therapeutic targets.

*Lopez-Gonzalez L, Sanchez Cendra A, Sanchez Cendra C, Roberts Cervantes ED, Espinosa JC, Pekarek T, Fraile-Martinez O, García-Montero C, Rodriguez-Slocker AM, Jiménez-Álvarez L, Guijarro LG, Aguado-Henche S, Monserrat J, Alvarez-Mon M, Pekarek L, Ortega MA, Diaz-Pedrero R. Exploring Biomarkers in Breast Cancer: Hallmarks of Diagnosis, Treatment, and Follow-Up in Clinical Practice. Medicina (Kaunas). 2024 Jan 17;60(1):168. doi: 10.3390/medicina60010168. PMID: 38256428; PMCID: PMC10819101.*

# Flowchart of the methods





## **Expected results**

### **Stage-Specific Gene Expression Profiles**


Identification of distinct gene expression patterns for different stages of breast cancer

### **Functional Annotation of Discovered Biomarkers**

Mapping biomarkers to biological pathways involved in cancer progression

### **Validation of Biomarkers**

Validation of identified biomarkers using independent transcriptomic datasets



Q/A