XIX CONGRESSO NAZIONALE SIES 2026

# L'ANALISI TRASCRITTOMICA DELLE CELLULE CD34⁺ NELLA MIELOFIBROSI EVIDENZIA IL LORO RUOLO NELLA DISREGOLAZIONE DELLA MATRICE EXTRACELLULARE E NELLA FIBROSI MIDOLLARE

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Firenze | 4-6 marzo 2026
Palazzo degli Affari

# Disclosures of Simona Bernardi

| Company name | Research support | Employee | Consultant | Stockholder | Speakers bureau | Advisory board | Other |
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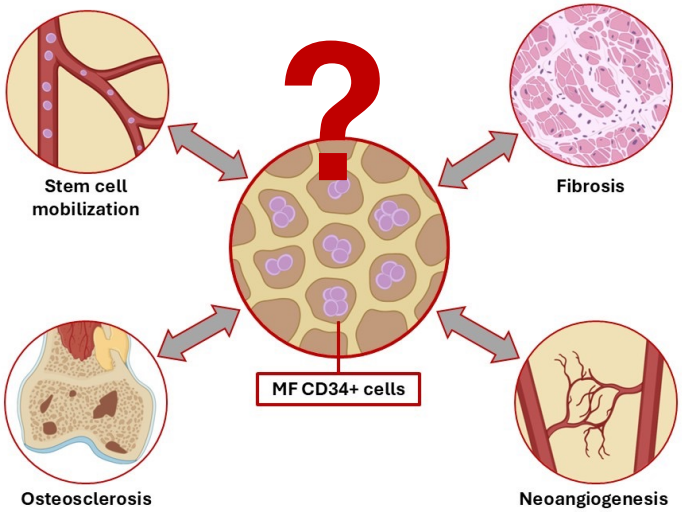
# Background and Hypothesis

Myelofibrosis:

- Hematopoiesis altered partly by neoplastic transformation and partly by bone marrow fibrosis.
- Fibrosis is associated with proliferation of bone marrow fibroblasts.
- Alteration of both bone marrow and extramedullary microcirculation due to alterations in the vascular endothelium.



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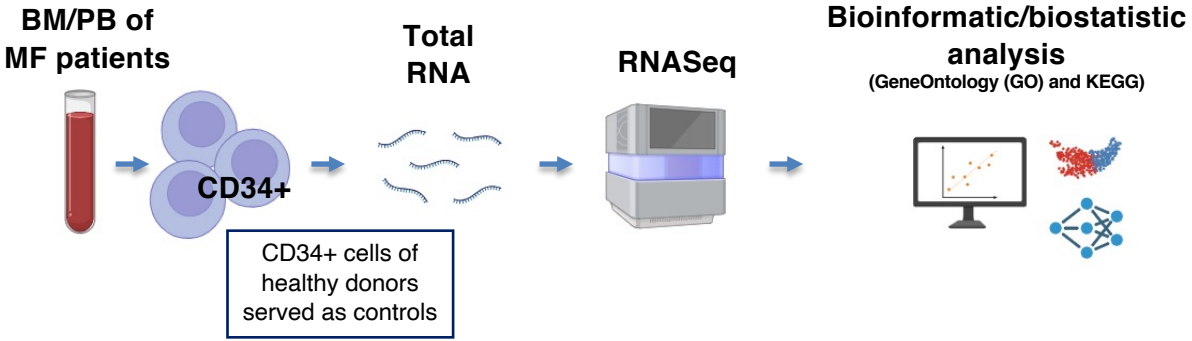
# Workflow




To identify the transcriptome differences according to:

- **degree of bone marrow fibrosis** (G≤1 vs. G>1)
- **disease subtype** (pre- PMF, overt-PMF, secondary-MF)
- **therapy with JAK-inhibitors** (therapy naïve, MF-TN vs. MF-JAKi)

- Novogene total RNASeq solution on Illumina NextSeq 500/550 platform on a Mid-Output kit V2.5 (300 cycles).
- Genes were considered differentially expressed when presented at least >2- fold change and p value <0.05. To identify the most impactful pathways, a gene ratio cut-off of 0.02 was set as reference.

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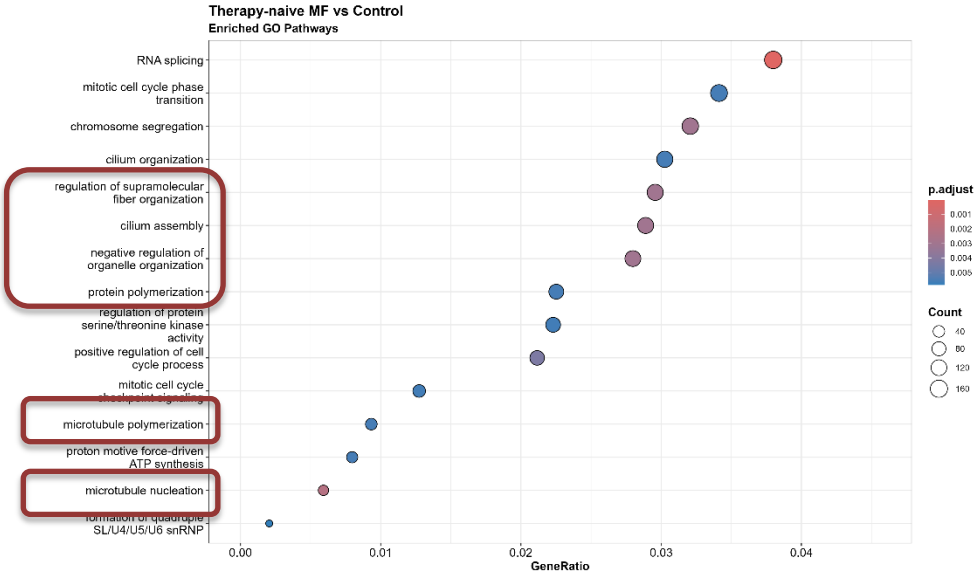
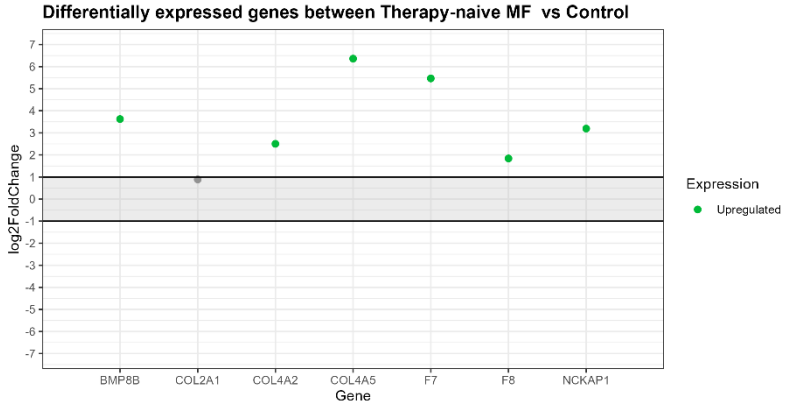
Results I

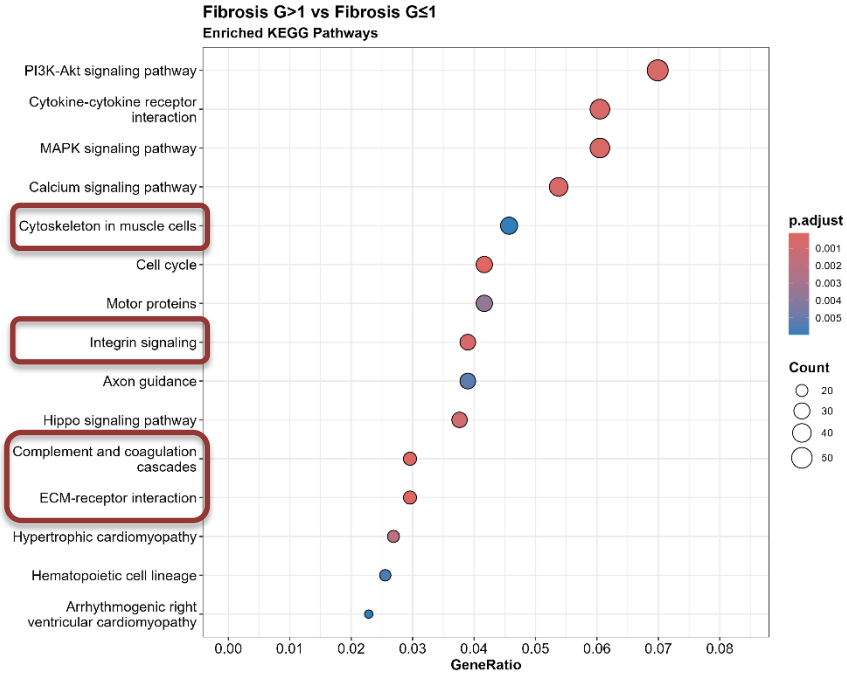
# TN-MF vs Healthy controls

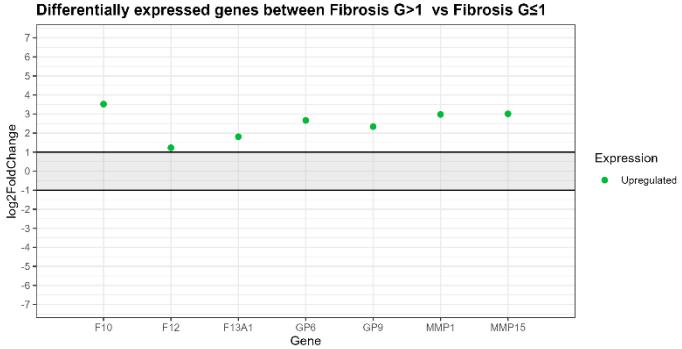


Results II

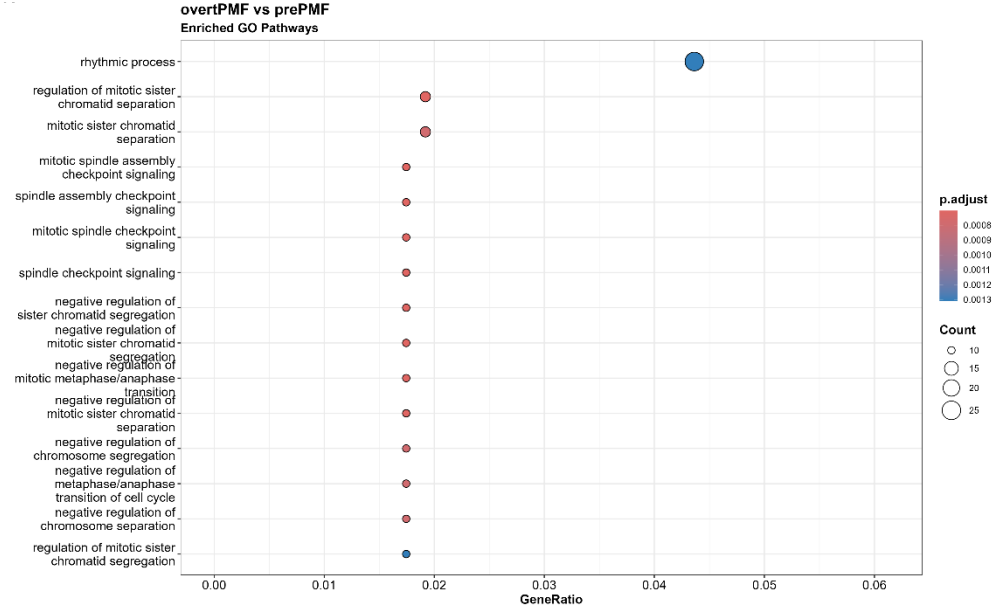
# Fibrosis grade: G>1 vs G≤1



Results III

# Disease type: overt-PMF vs pre-PMF



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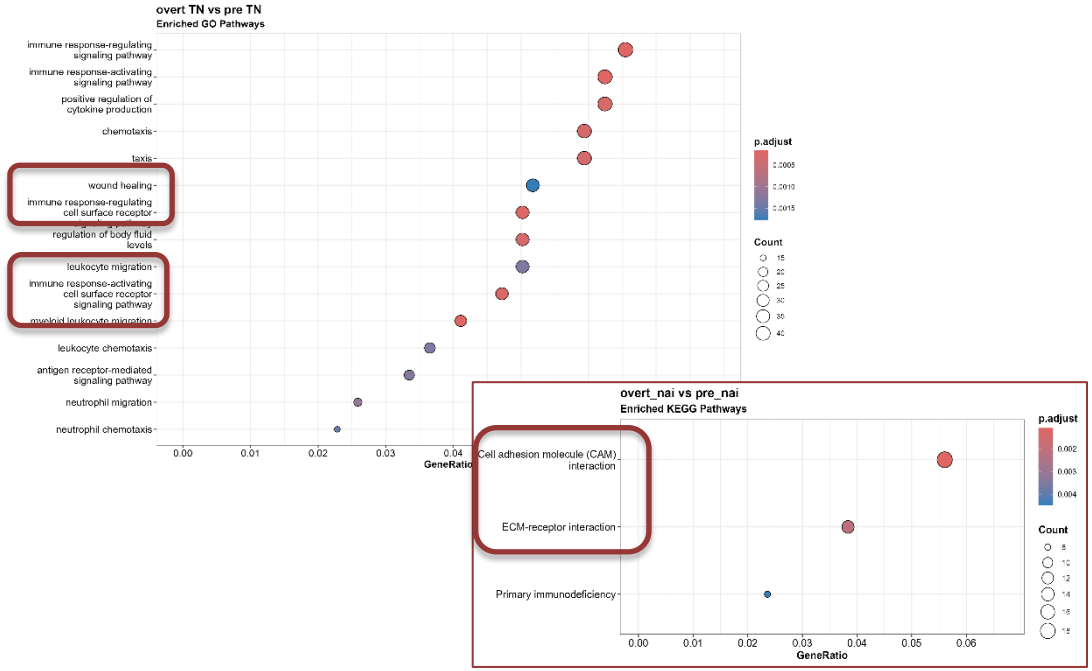
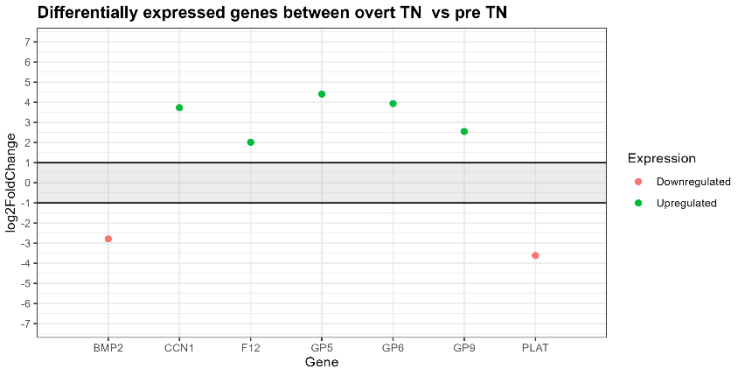
# Disease type without JAKi: overt-PMF TN vs pre-PMF TN

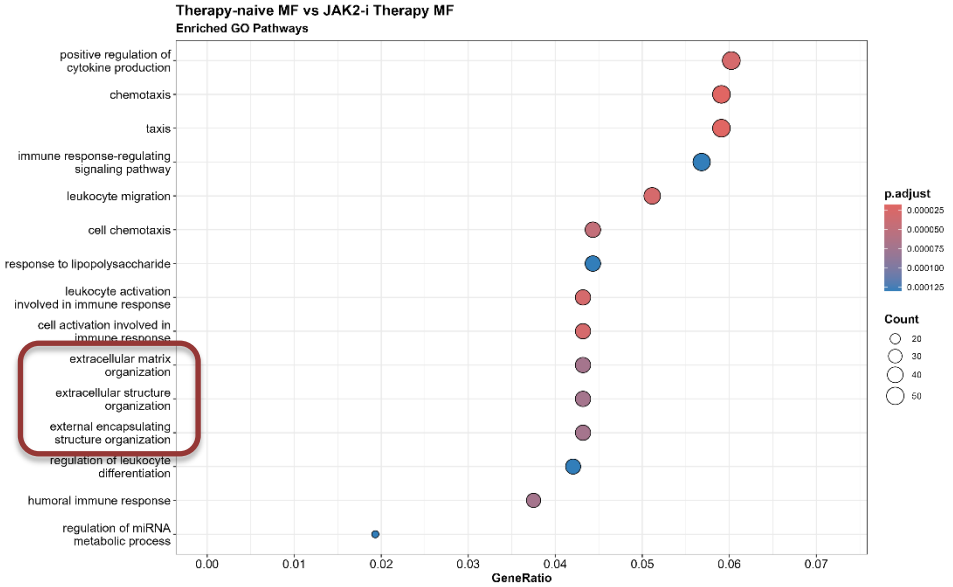
**Results III**

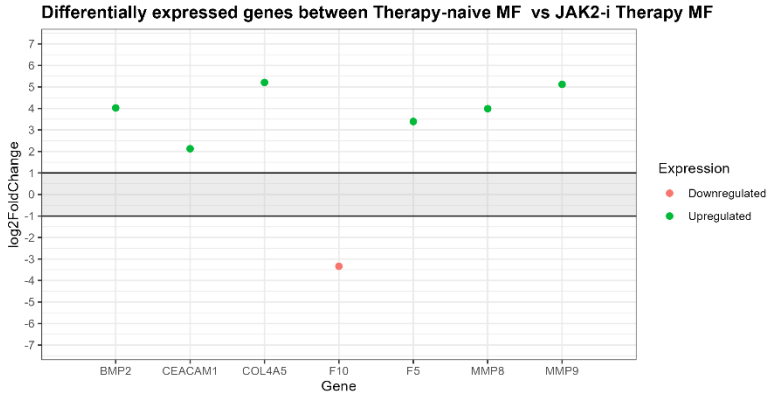


Results IV

# Therapy: MF-TN vs MF-JAKi



# Conclusions

- For the first time, our analysis reveals that pathways associated with wound healing, collagen organization, osteo- and angiogenesis, and extracellular matrix remodeling are differentially expressed in malignant $CD34^+$ cells, correlating with the extent of bone marrow fibrosis.
- JAKi therapy modulates the expression of several of these genes involved in tissue remodeling and angiogenesis, suggesting a broader impact on disease biology beyond cytokine signaling suppression.

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