



XIX CONGRESSO
NAZIONALE
SIES 2026

**MSCs PROTECT AML CELLS FROM VENETOCLAX-INDUCED
APOPTOSIS THROUGH A CD90-MEDIATED ADHESION PATHWAY**

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Palazzo degli Affari

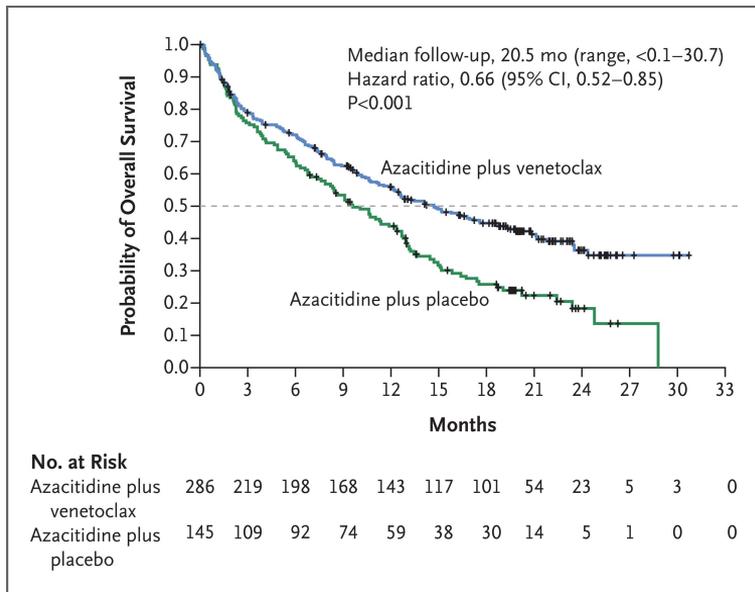


Disclosures of Name Surname

Company name	Research support	Employee	Consultant	Stockholder	Speakers bureau	Advisory board	Other
none							

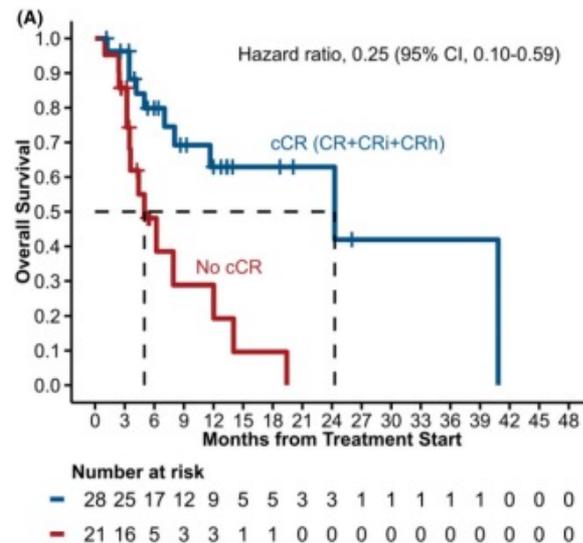
AZA/VEN : The Frontline Backbone in unfit AML

CR/CRi 66%.vs. 28.3%



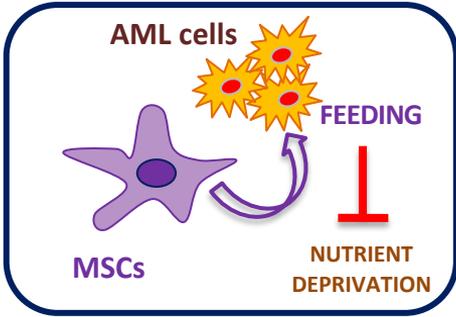
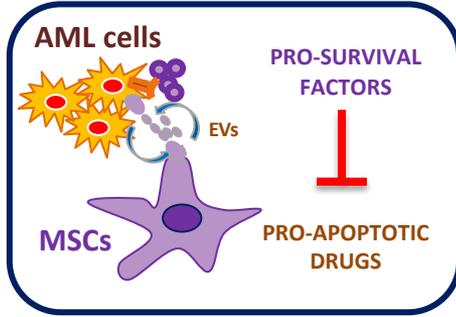
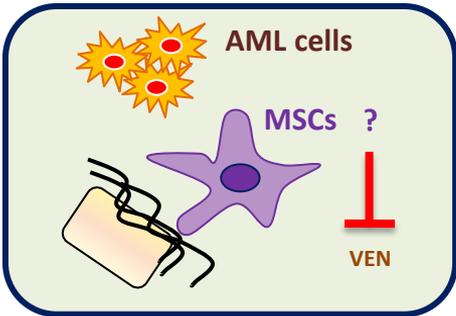
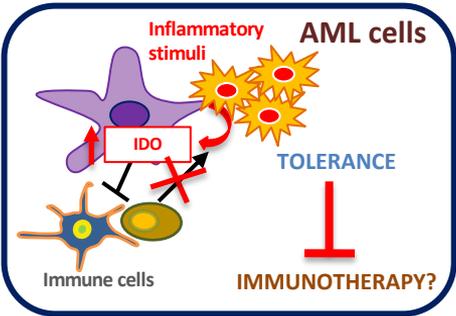
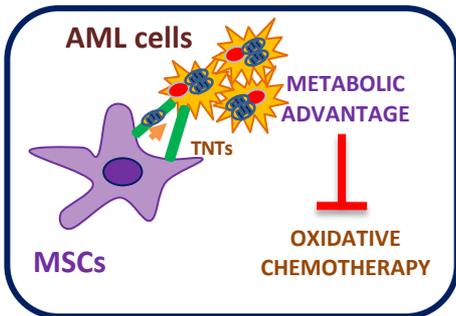
DiNardo CD, N Engl J Med 2020

Relapse 1/3

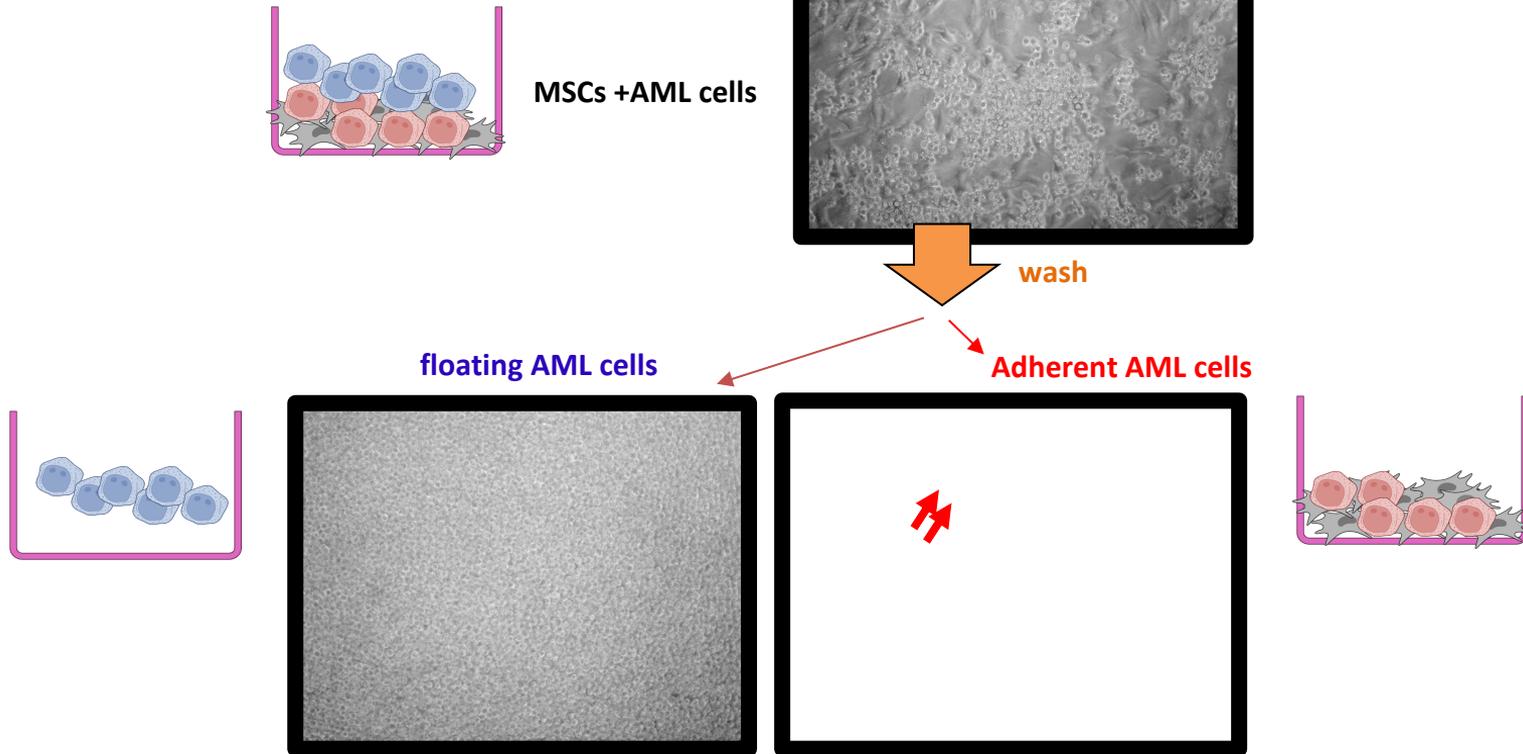


Acker F et al, Eur J Hematol 2024

MSCs in AML resistance to therapy



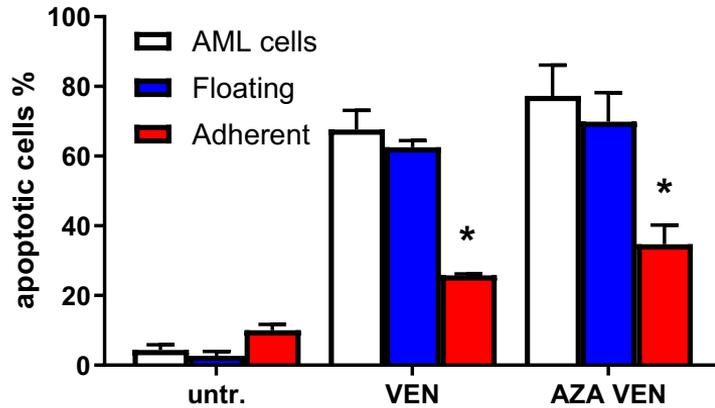
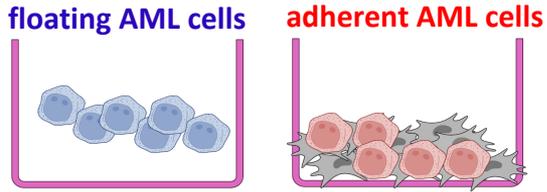
MSC/AML cell co-culture model





Floating vs. adherent AML cells show a different VEN-sensitivity

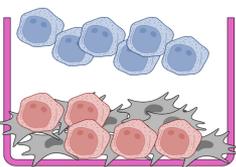
MSCs + adherent leukemic cells (EM)



adhesion structures?

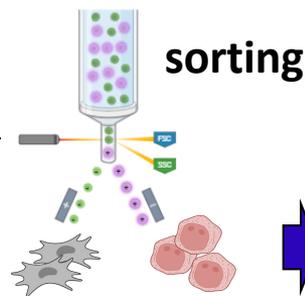


Floating vs. adherent AML cells show a different GEP

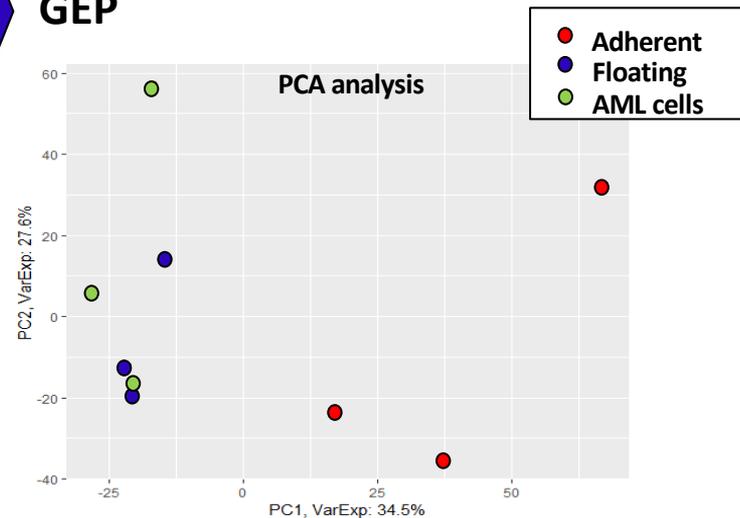


AML cells → floating

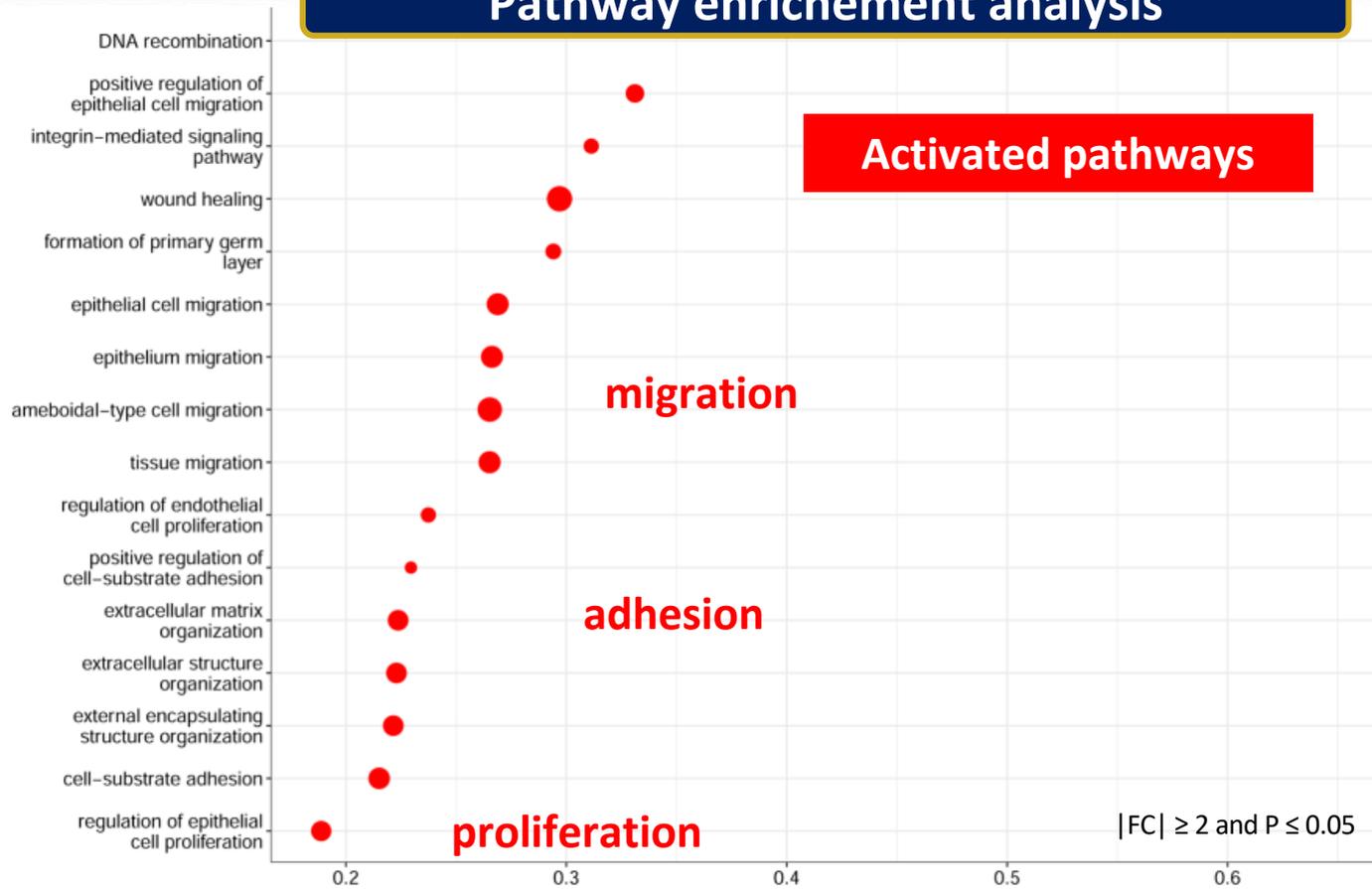
MSCs + AML cells → adherent



sorting
GEP



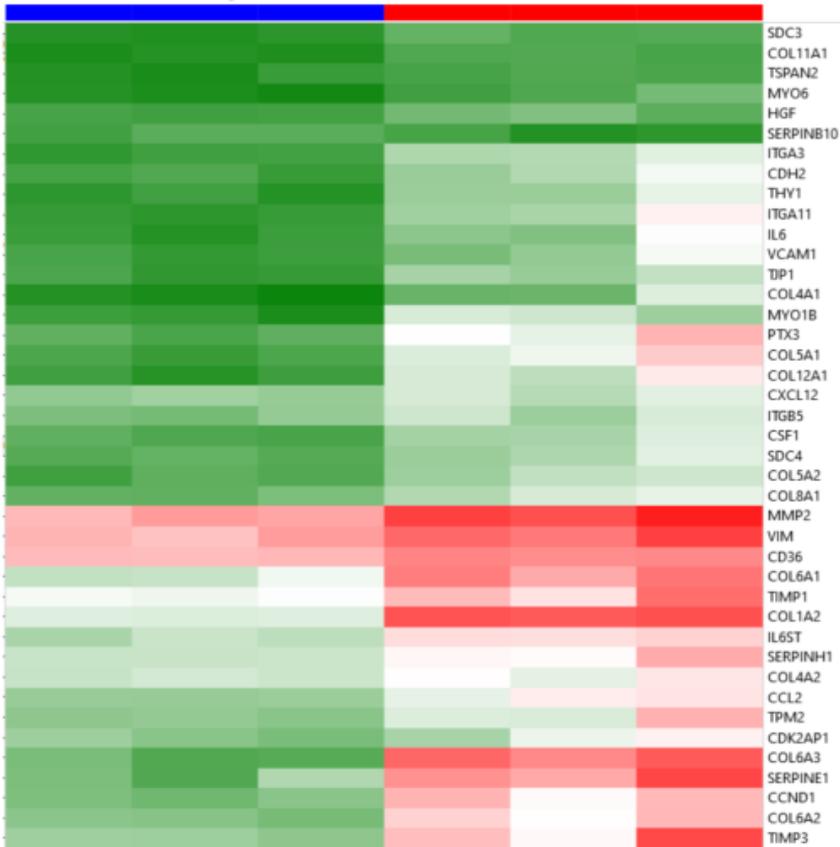
Pathway enrichment analysis





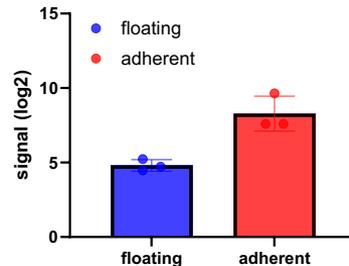
floating

adherent

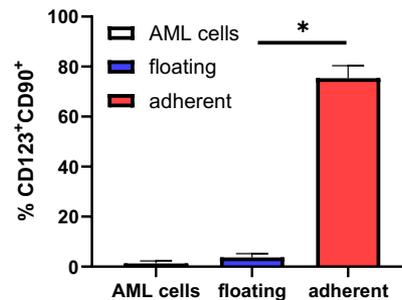


Adherent AML cells upregulated Thy/CD90

CD90 (GEP)



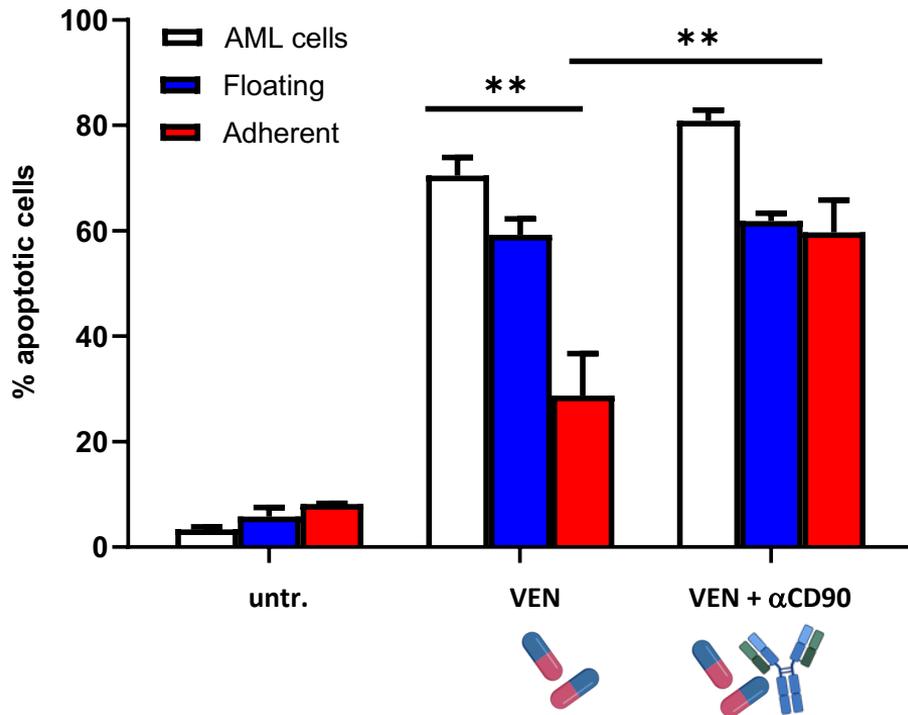
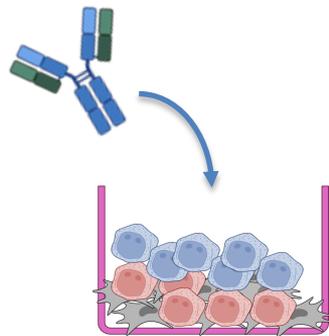
FC



Thy1/CD90 upregulation correlated with high-risk AML and poor prognosis (Buccisano et al., 2004)

CD90 blocking decreases MSC protective effect

anti-CD90



MSCs

Up-stream interactions

Integrin αV

?

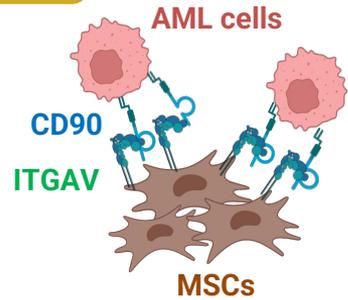
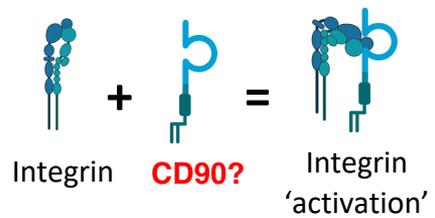
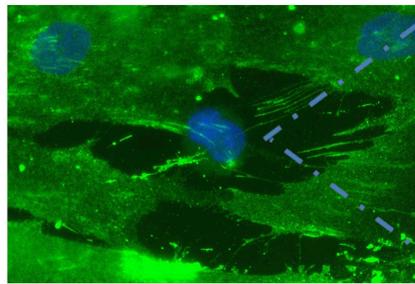
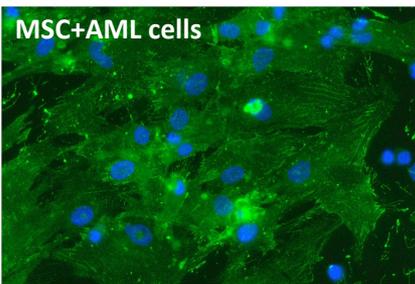
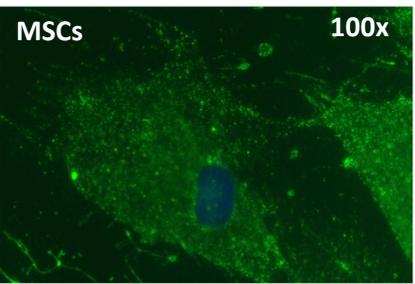
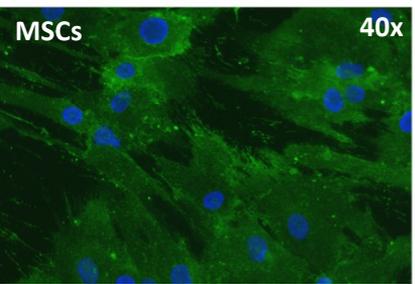


CD90

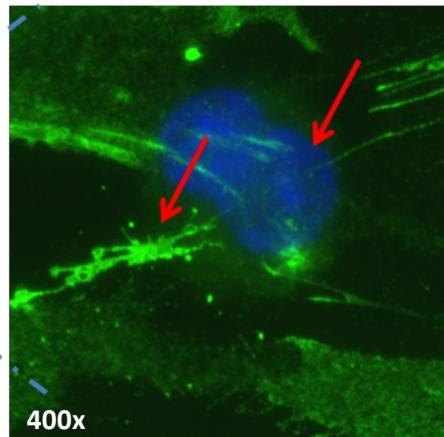
AML cells

ITGAV is a putative CD90 interaction partner on MSCs

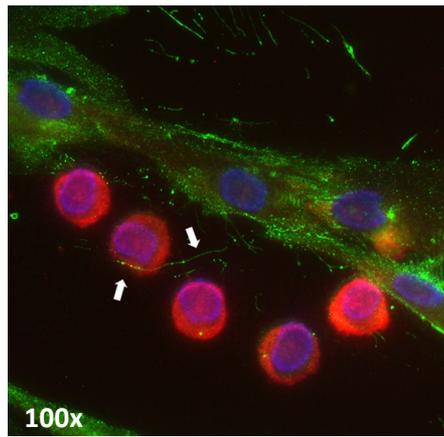
ITGAV/DAPI



ITGAV/DAPI



ITGAV/CD123 /DAPI



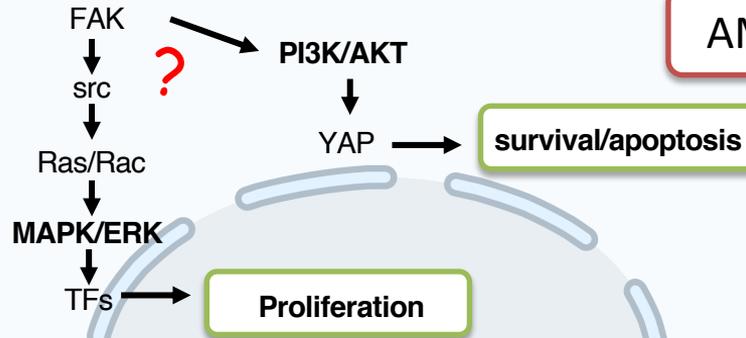
Volkava et al. in preparation

MSCs

down-stream interactions

Integrin αV

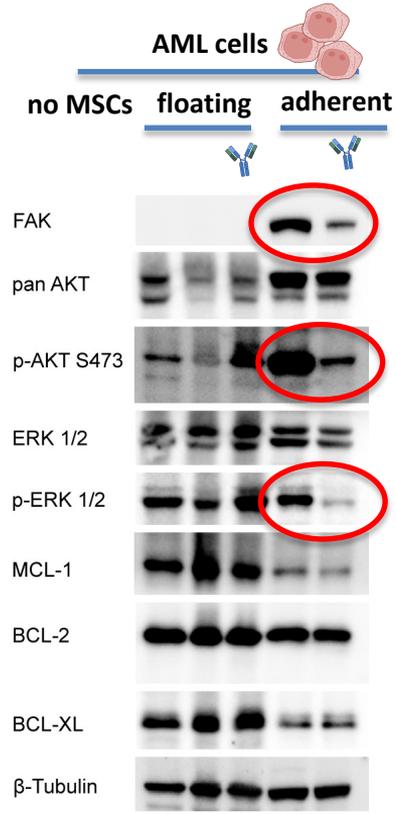
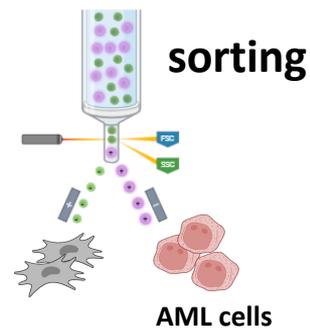
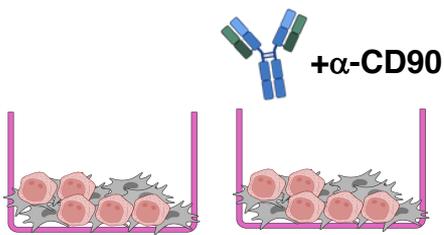
CD90



AML cells



Prosurvival pathway activation in AML adherent cells is CD90-dependent

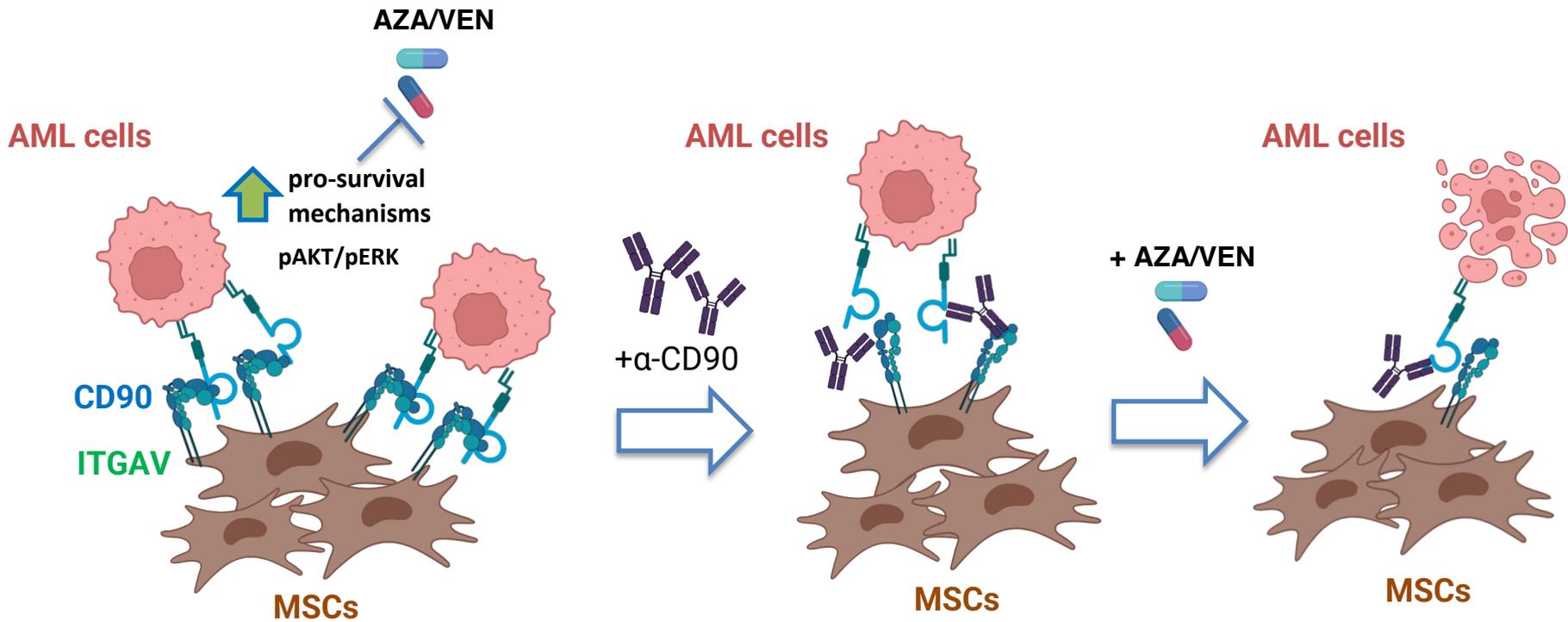


PI3K/AKT/mTOR pathway

MAPK/ERK pathway

NF-κB pathway

JAK/STAT pathway



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