

LIFEFEST 2026

Nashville



**Current and Emerging Research & Trials in Liposarcoma:
Understanding Tumor Biology
to Find Better Treatments**

Dr. Erica Pimenta

Understanding Tumor Biology to Find Better Treatments

How basic science is changing liposarcoma research

Erica Maria Pimenta, MD, PhD

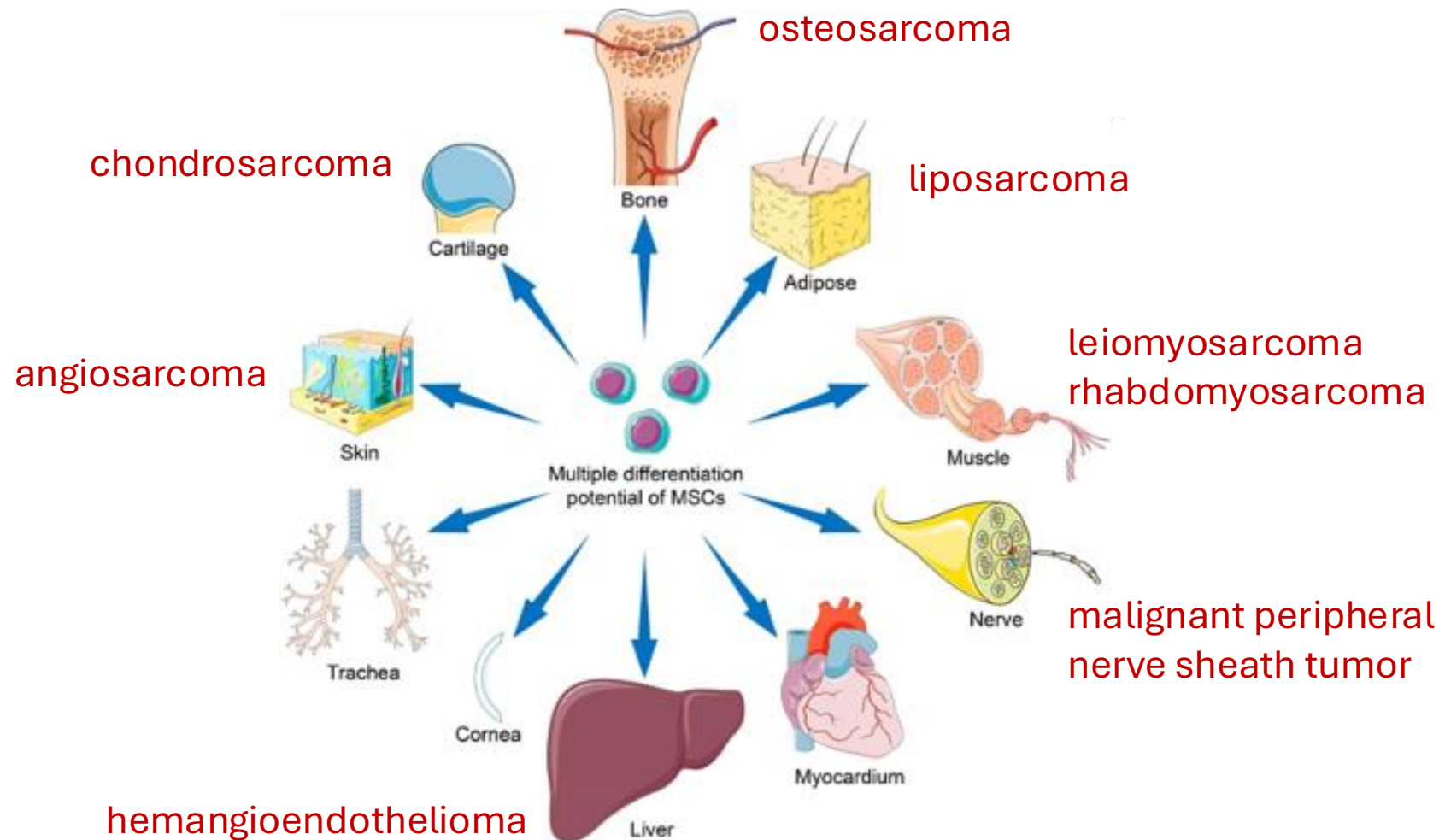
Physician-Scientist

Sarcoma Center, Dana-Farber Cancer Institute



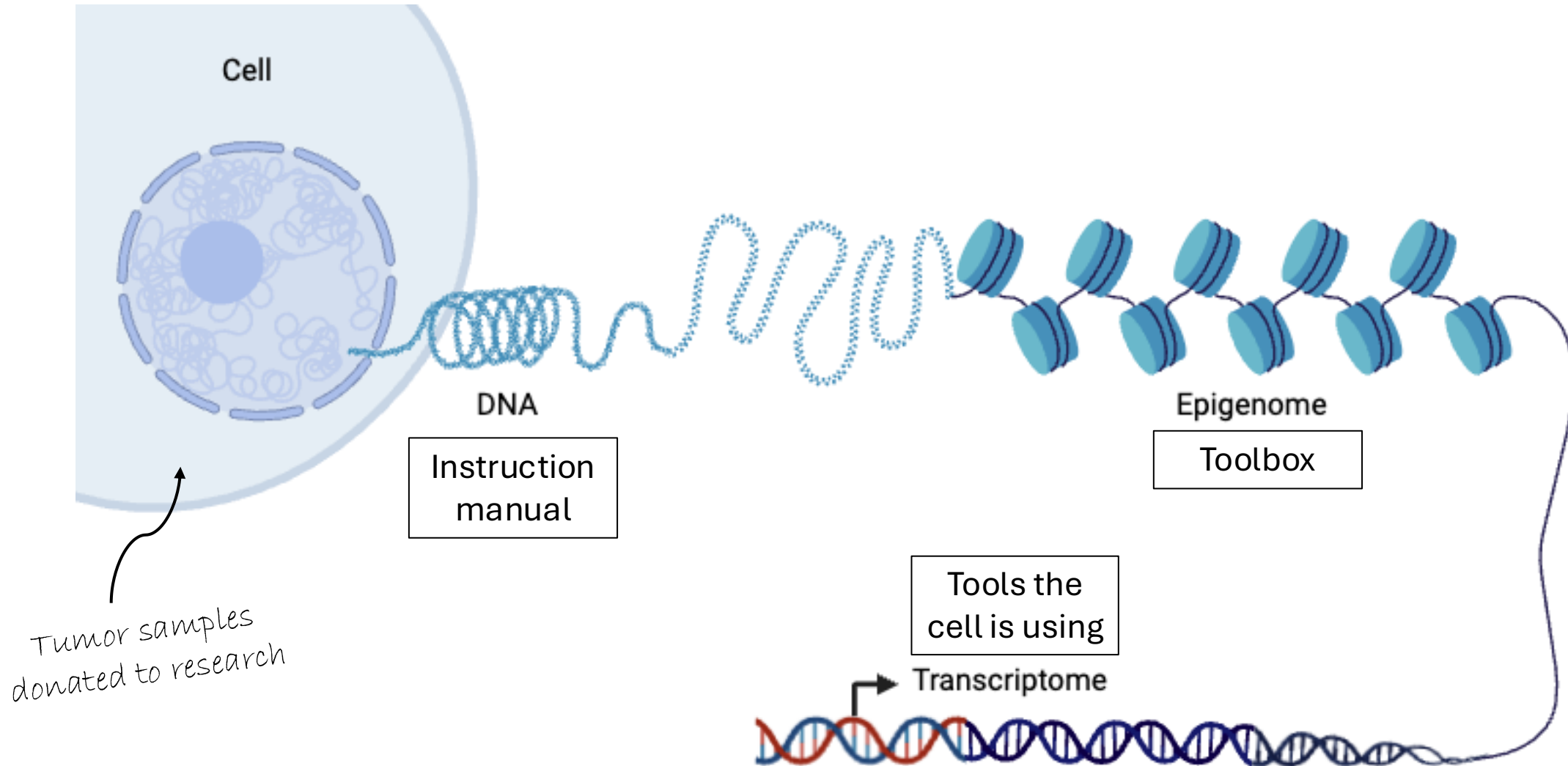
Dana-Farber
Cancer Institute

Understanding Sarcoma Has Never Been Easy

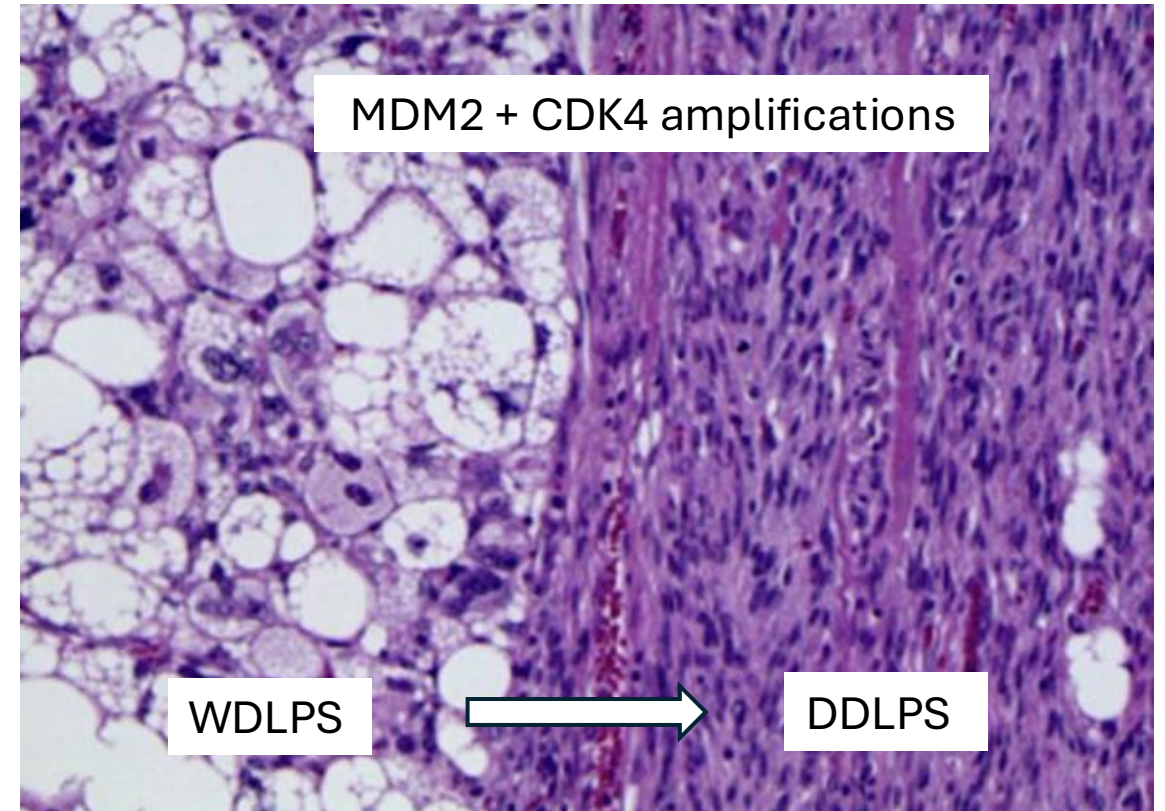
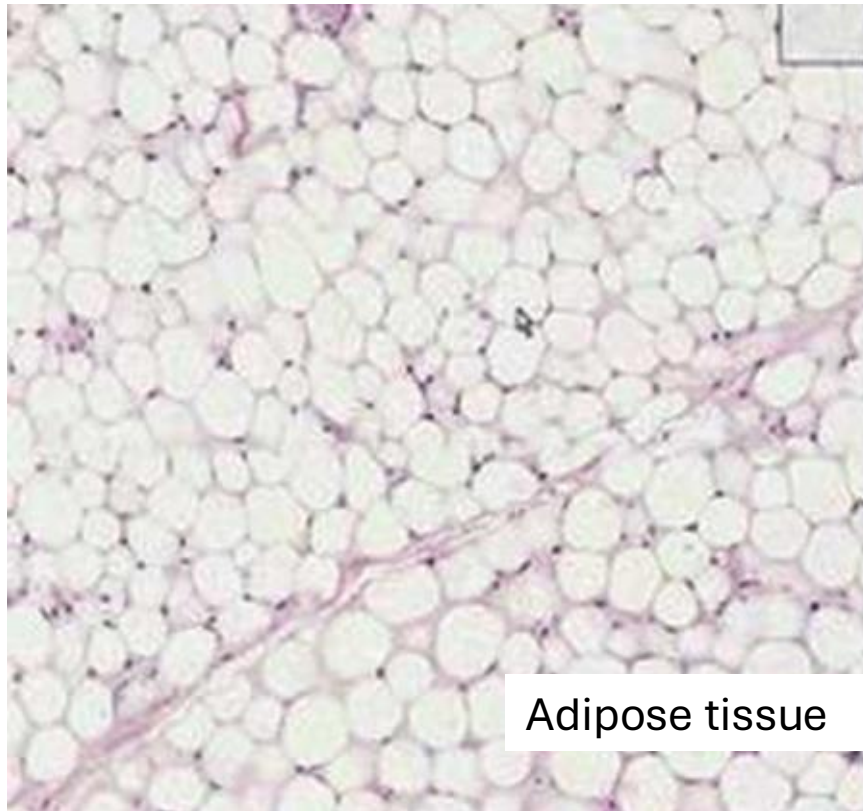


Cutting-edge technology now allows us to decode sarcoma-specific biology.

Today, we can ask new questions

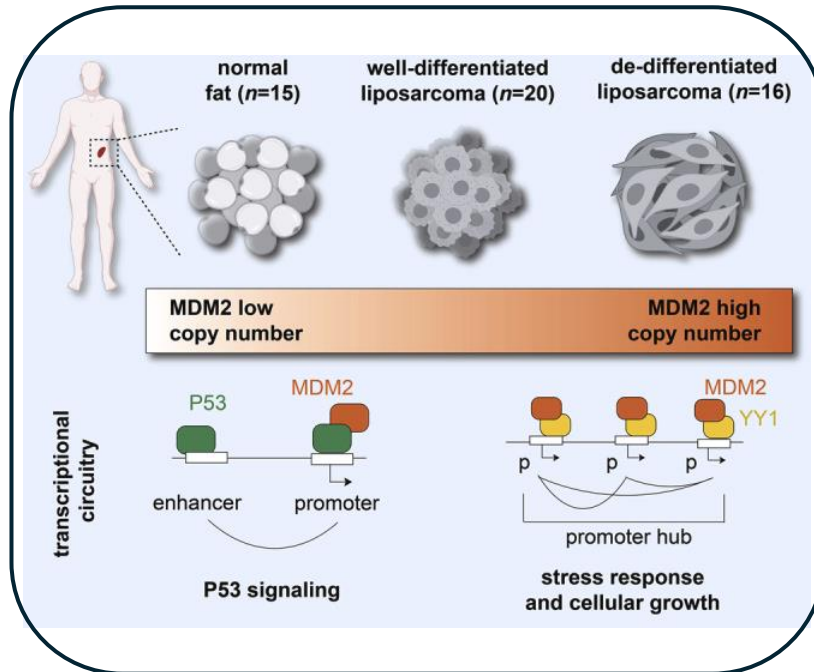


MDM2-amplified liposarcoma



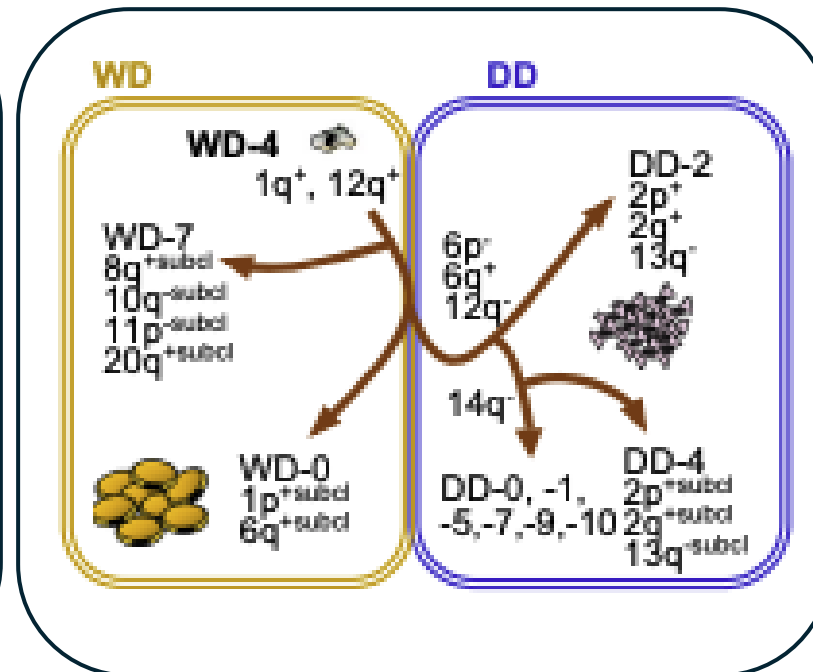
Recent discoveries are changing our understanding of LPS

MDM2 reshapes gene regulation



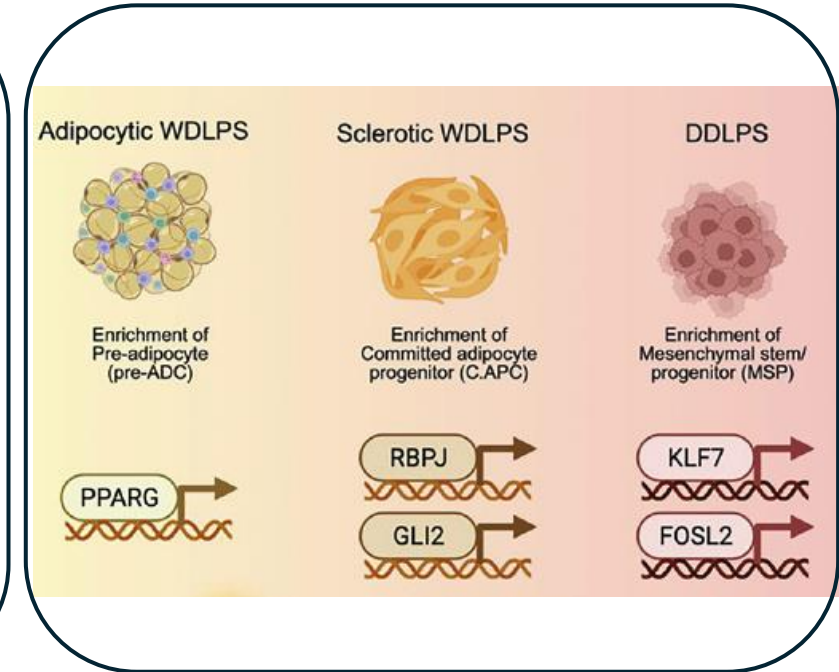
Bevill et al *Cell Genom*, 2023

New insights into the cell of origin



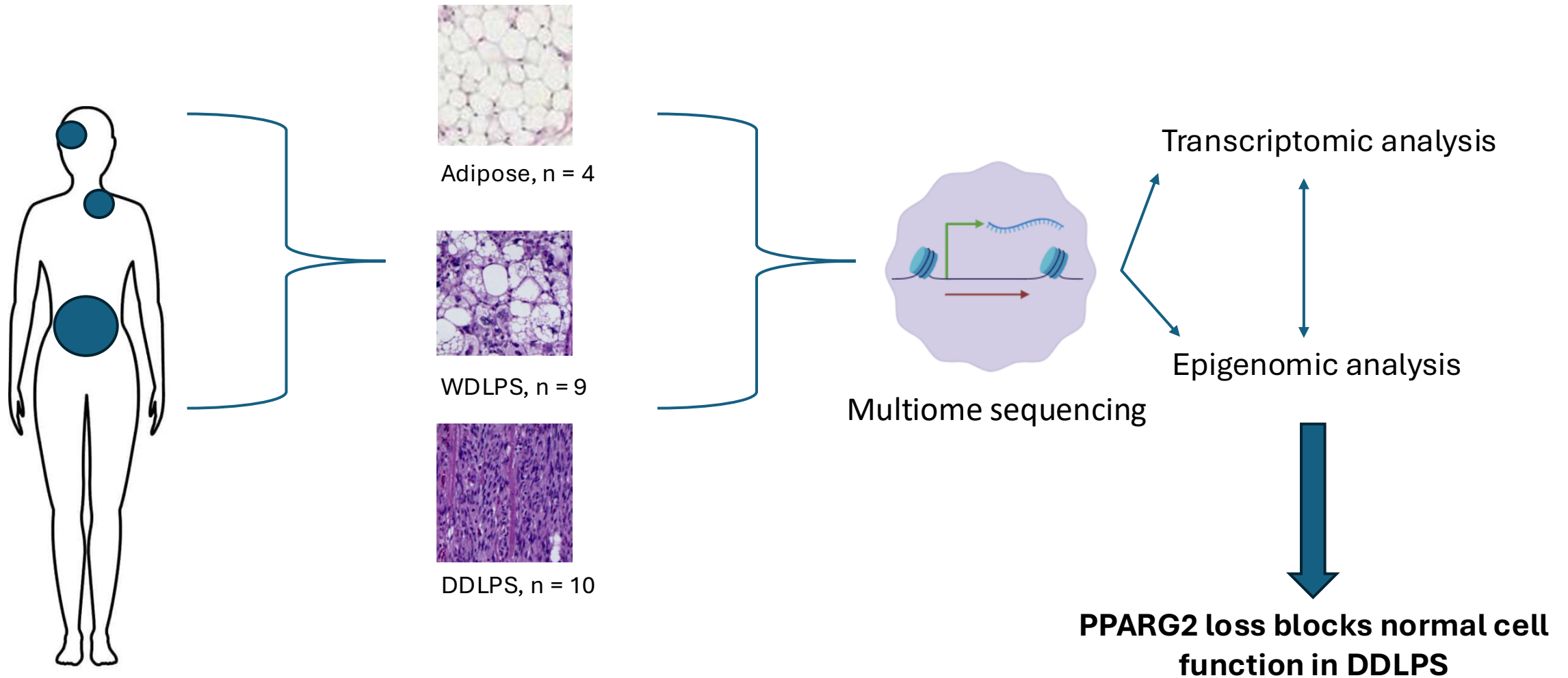
Gruel et al *Nat Comm*, 2023

Uncovering molecular vulnerabilities

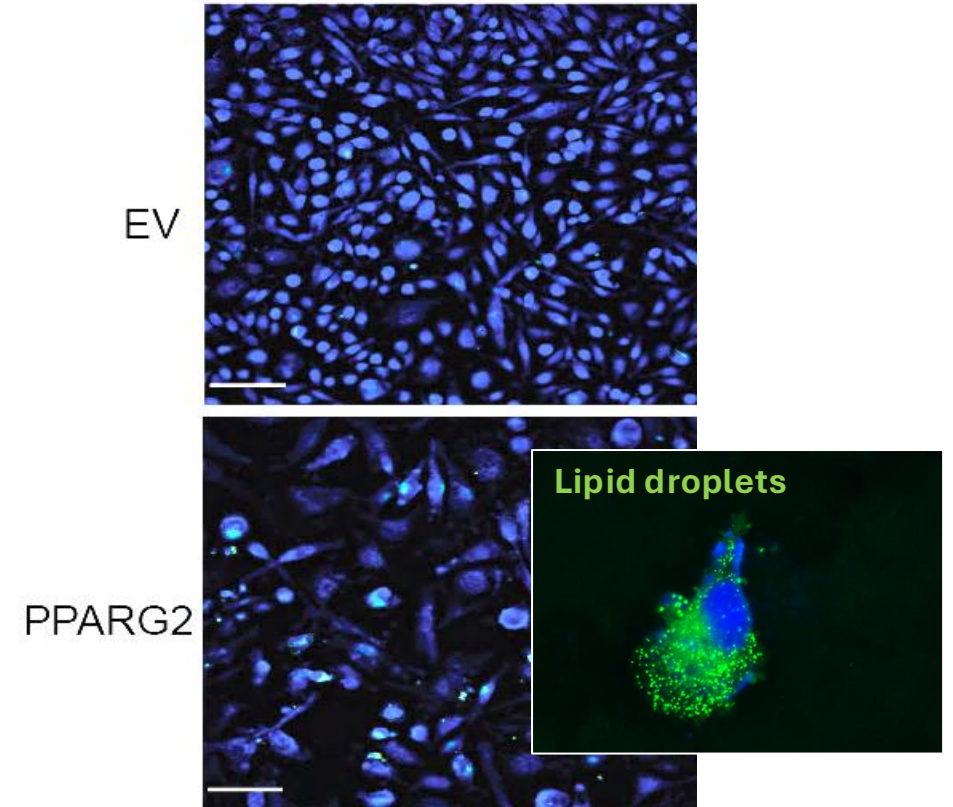
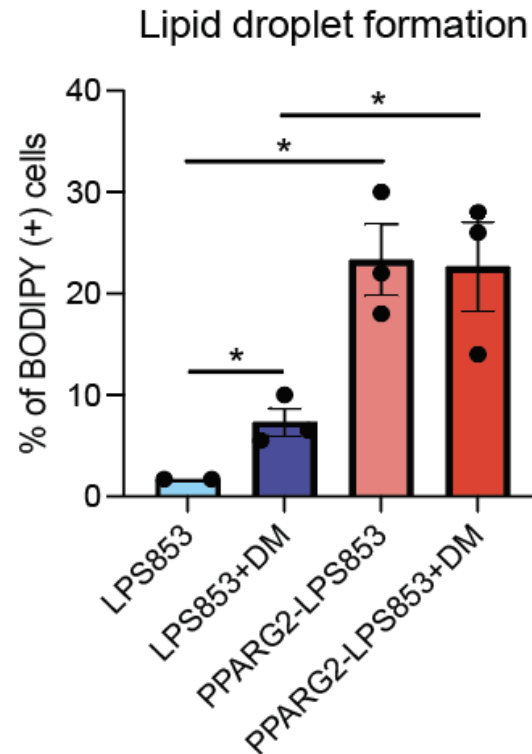
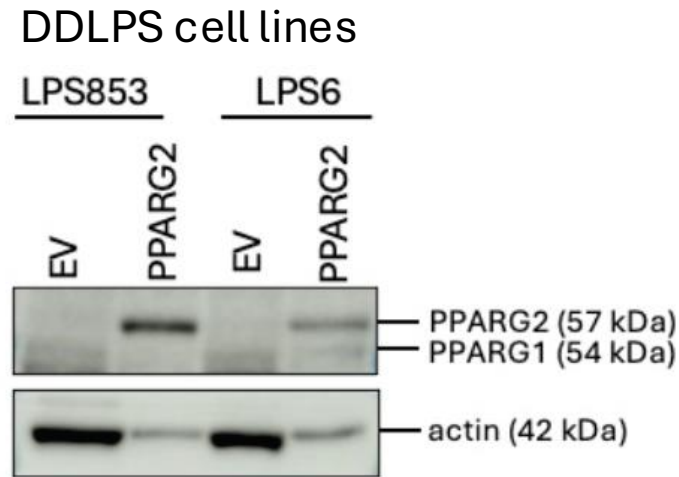


Denu et al *bioRxiv*, 2026

What causes liposarcoma to lose its cell identity?

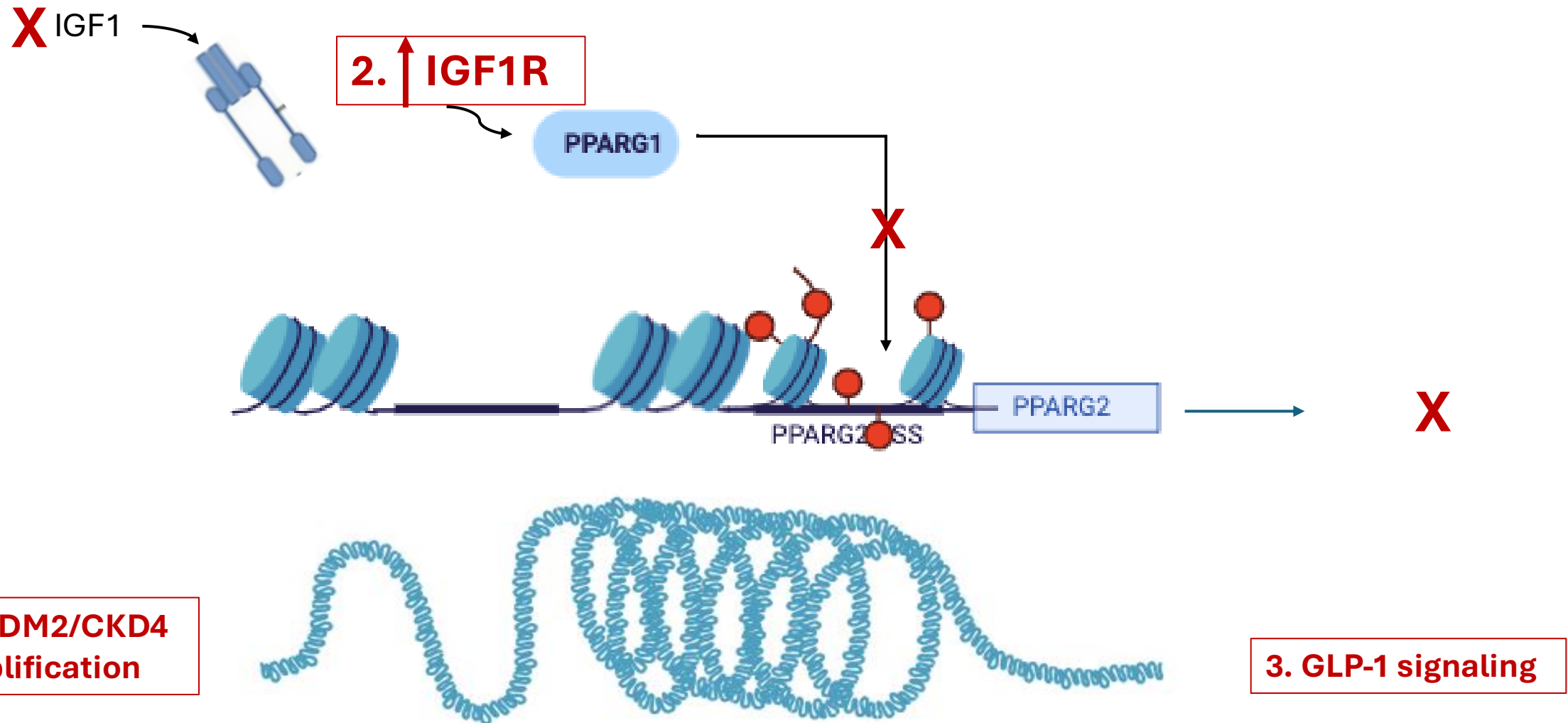


Restoring PPARG2 restores normal cell function in DDLPS



* p < 0.05, MWU
Scale bar = 100 micrometers
Pimenta et al, *Sci Transl Med* 2026

New biology reveals new treatment opportunities



Turning Discovery Into Treatments

Turning discovery into treatment

CKD4

SARC041: A phase 3 randomized double-blind study of abemaciclib versus placebo in patients with advanced dedifferentiated liposarcoma.

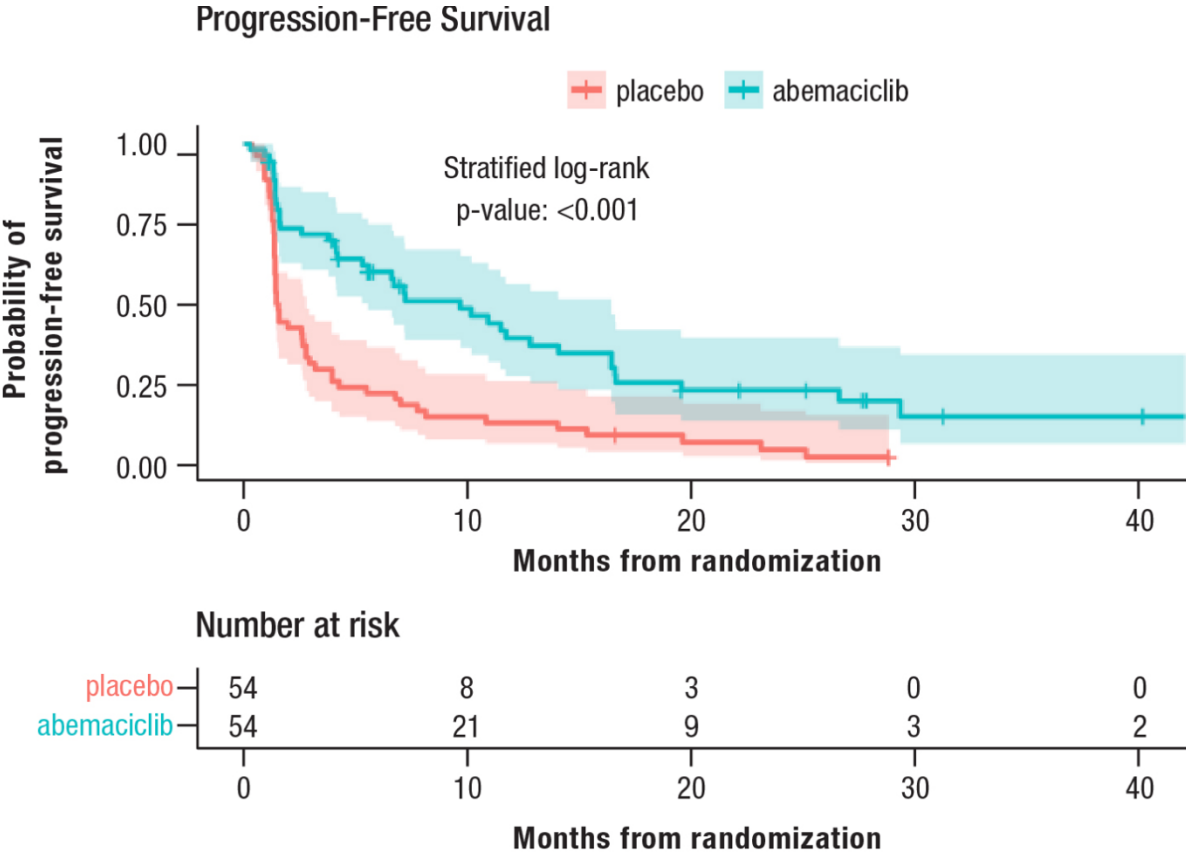
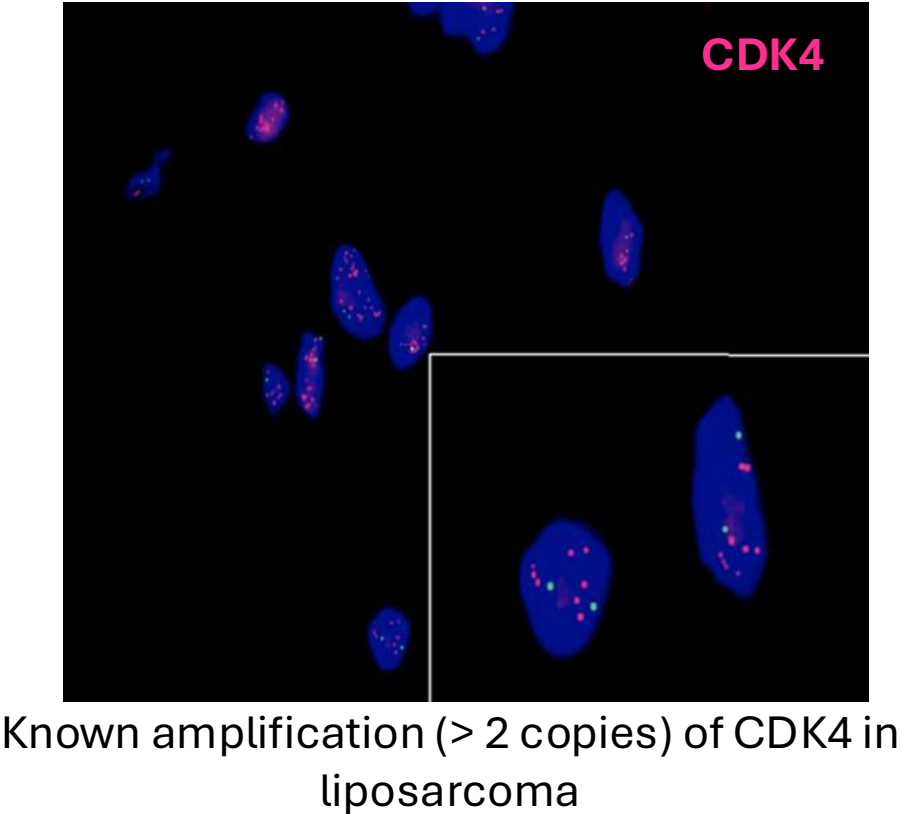
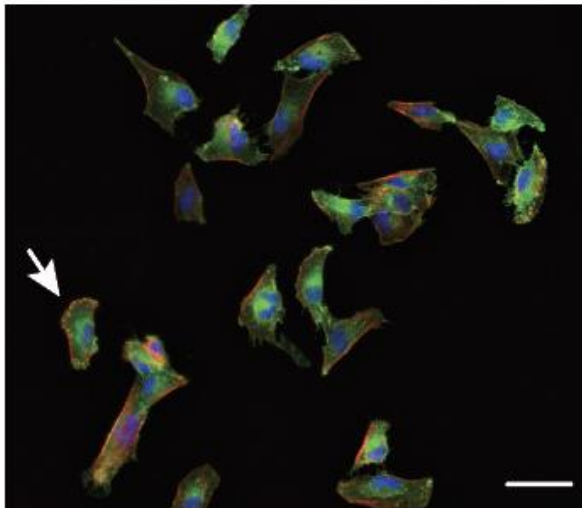


Figure adapted from James et al, *Clinical and Transl Oncology* 2026; Dickson et al SACR041 ASCO Plenary 2026

Turning discovery into new targets

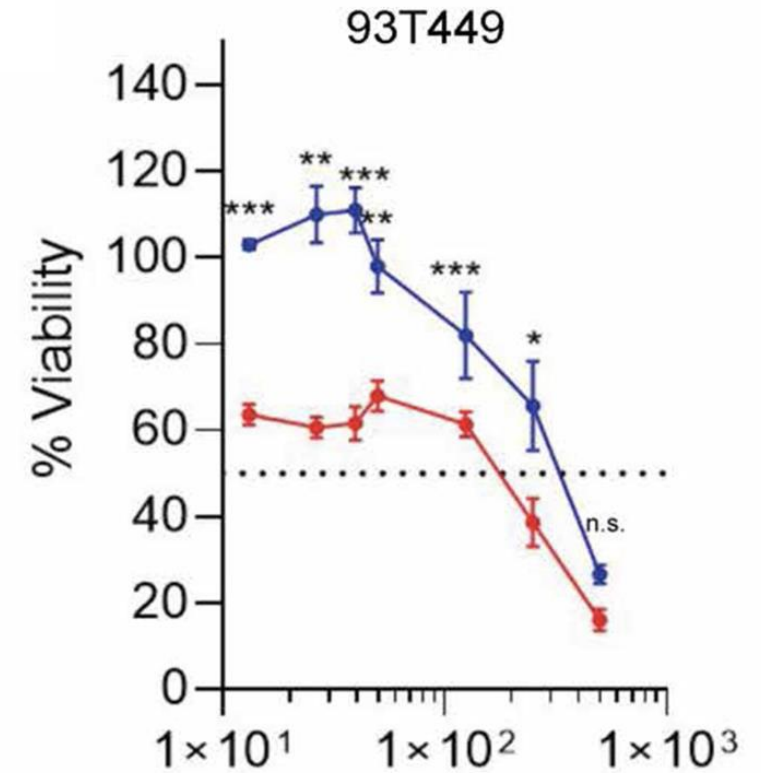
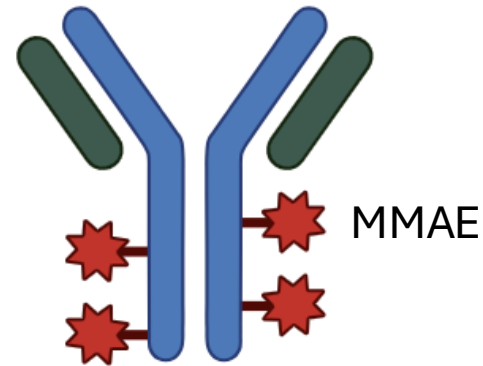
IGF1R

LPS cells (93T449)



IGF1R
Phalloidin
DAPI

IGF1R- ADC



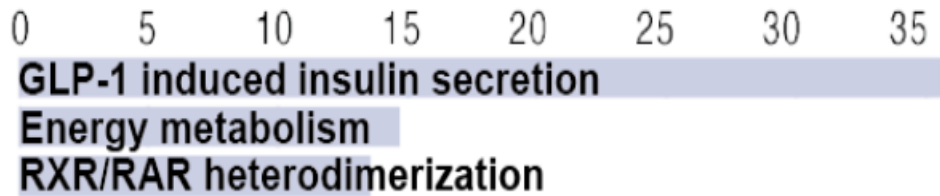
Isotype control-ADC
IGF1R-ADC

Turning discovery into new research directions

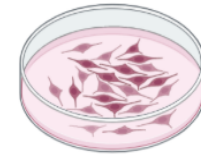
GLP1

Pathway enrichment

$-\log_{10}(\text{Binomial p value})$



DDLPS cells



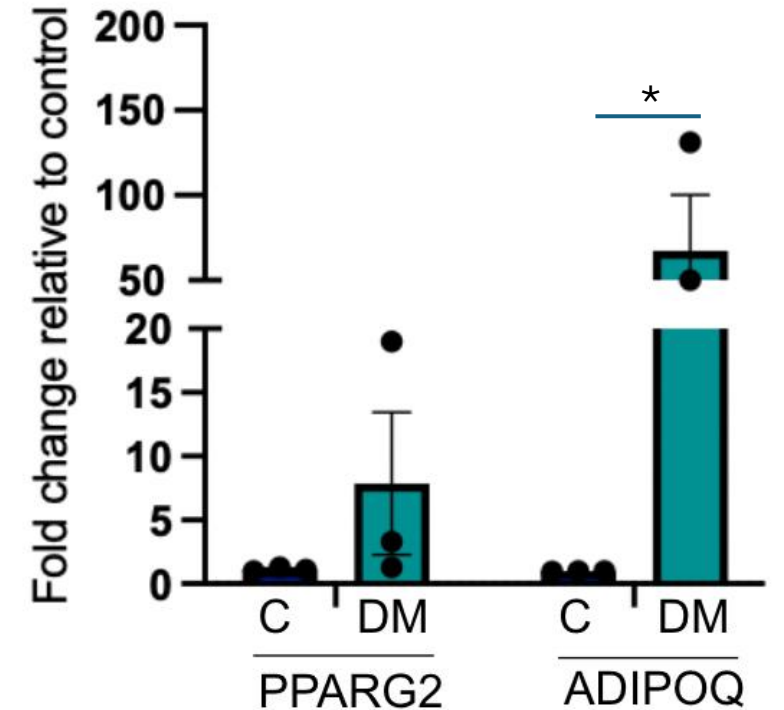
Control media



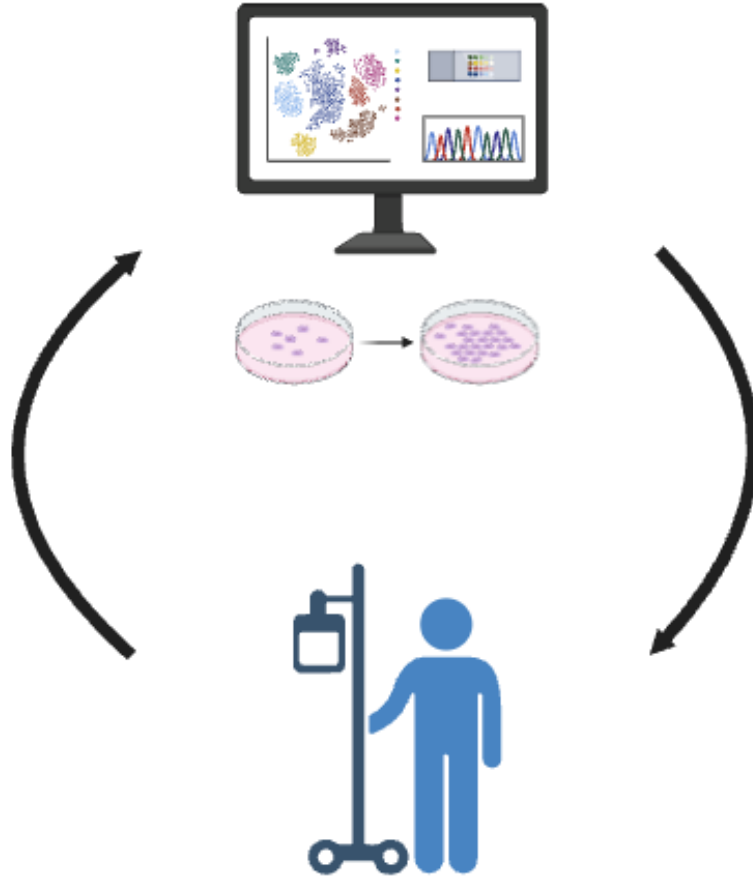
DM + Liraglutide

72 hr

Expression of adipocyte markers



New biology leads to new treatments.



Thank you, patients and families

Liposarcoma Panel

Greg Palmer
Morganna Vance
Elizabeth Lilley
Neeta Somaiah

Life Raft Group

Sara Rothschild
Brian Morello

Liposarcoma Support Network

David Liposarcoma Research Initiative

George Demetri
Nicole Solimini
Audrey Turchick
Chanjadrit P. Raut
Jason Hornick

DFCI Sarcoma and Bone Cancer Center

Suzanne George
Michael Wagner
Priscilla Merriam
Andrew Wagner
Candace Haddox
Alexandra Bailey
Thierry Alcindor

Pimenta Lab, Translational Research in Sarcoma

Amanda Garza
Jihye Park
Hayley Neighmond
Zoe Cosner
Van Allen Lab

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Doris Duke Foundation

AACR QuadW Foundation

ASCO Conquer Cancer



Turning discovery into new research directions

GLP1: Emerging lessons from carcinomas

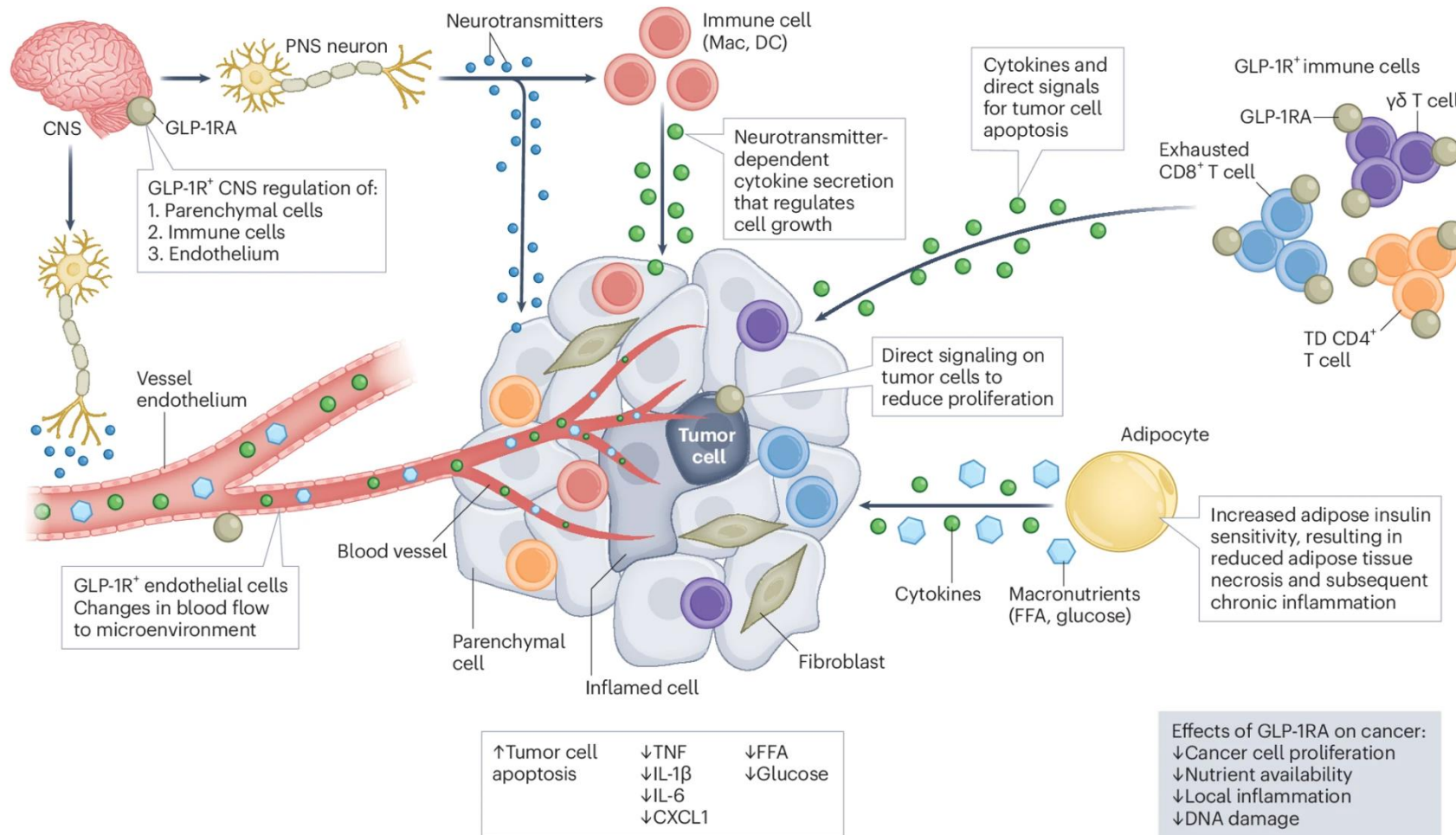


Figure from Yabut & Drucker *Nature Cancer* 2026 [Review]; Cencioni et al *J Exp Clin Cancer Res* 2025 (PDAC); Lu et al *Transl Onc* 2021 (HCC); Stanisavljevic et al *Biomed Pharmacother* 2024 (breast); Valencia-Rincon et al *J Clin Invest* 2025 [Review]

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Thank you to our sponsors for supporting our mission to present high-quality education, engagement & support to the liposarcoma community!

