

Differentiating metabolic response to treatments in androgen -sensitive and -independent prostate cancer tissue slices

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Background

Aim: Improve metabolic characterization of 3D PCa tumors by establishing novel methods of metabolomics in PCa tissue slices.

MDV (AR antagonist enzalutamide) effects on:

- <u>Androgen-sensitive</u> (LNCaP) PCa tissue
- <u>Androgen-independent</u> (CSS90) PCa tissue

PCa tissue slices:

- From engrafted PCa tumors in SCID mice
- Oxygen consumption rate (OCR)
- Extracellular acidification rate (ECAR)





<u>Results</u>

Effect of **MDV** treatment (compared to control):

• **OCR** (mitochondrial respiration):

Decreased by **70.0% (more)** in LNCaP tissue Decreased by **55.5% (less)** in CSS90 tissue

 <u>ECAR</u> (aerobic glycolysis): Increased by 338% in LNCaP tissue Decreased by 59.9% in CSS90 tissue

Androgen -sensitive and -independent PCa tissue have unique metabolic responses to MDV.

Future goal: Predict treatment outcomes with metabolic characterization of **human PCa biopsies**.