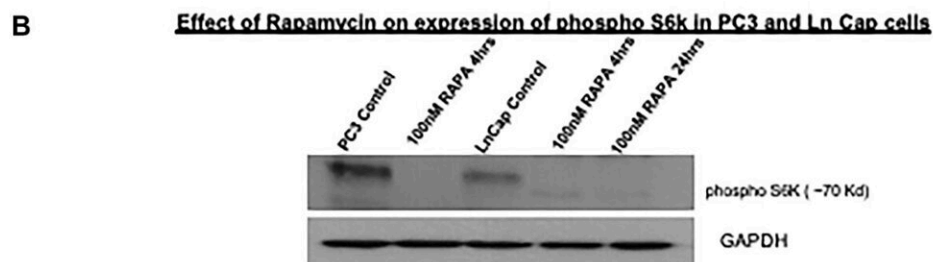
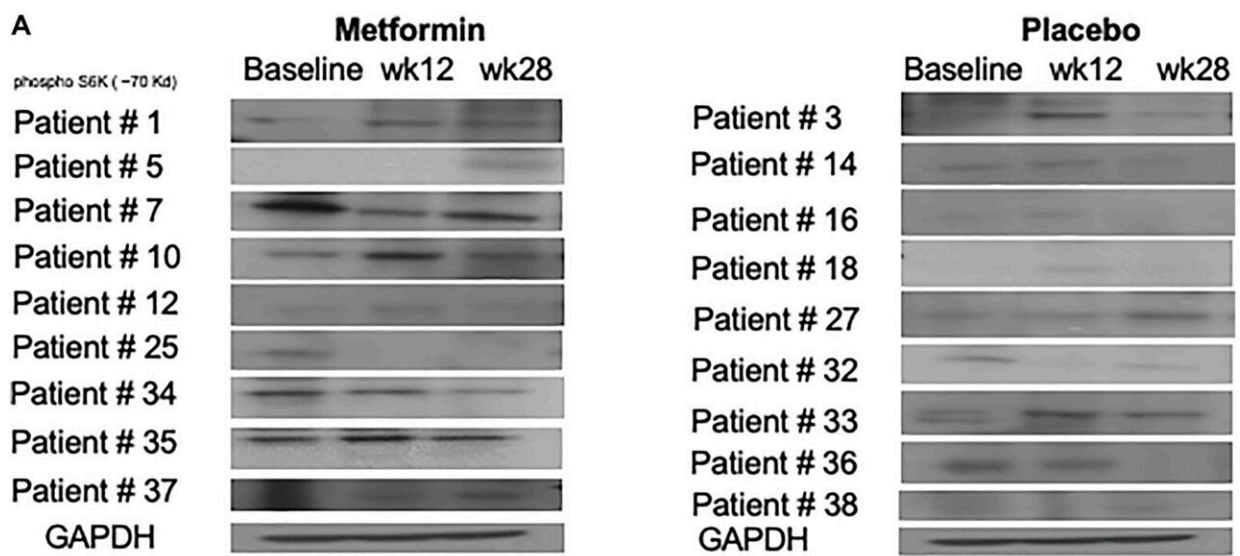


Metformin's role in preventing metabolic syndrome during androgen deprivation therapy

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Variable changes in phosphorylation of S6 kinase 1 was observed in both cohorts. Credit: *Oncotarget* (2023). DOI: 10.18632/oncotarget.28458

A new research paper titled "Utilizing metformin to prevent metabolic syndrome due to androgen deprivation therapy (ADT): a randomized phase II study of metformin in non-diabetic men initiating ADT for advanced prostate cancer" has been published in *Oncotarget* .

Androgen deprivation therapy (ADT) can lead to [metabolic syndrome](#) (MS) and is implicated in ADT-resistance. Metformin showed antineoplastic activity through mTOR inhibition secondary AMPK-activation.

To investigate whether [metformin](#) mitigated ADT-related MS, researchers from the University of Texas Health Science Center, Robert H Lurie Comprehensive Cancer Center of Northwestern University, Roswell Park Cancer Institute, Mays Cancer Center at University of Texas Health, Audie Murphy VA Hospital, McGill University, and Christus Health conducted a randomized double-blind phase II trial of metformin 500 mg TID or placebo in non-diabetic patients with biochemically-relapsed or [advanced prostate cancer](#) (PC) due for ADT.

"To test these hypotheses, we conducted a phase II randomized, placebo-controlled, prospective study of metformin vs. placebo in patients with advanced, castrate sensitive PC treated with ADT (NCT:01620593)," explain the researchers.

Fasting serum glucose, insulin, PSA, metformin, weight, and [waist circumference](#) (WC) were measured at baseline, week 12 and 28. The primary endpoint was a group of MS metrics. Secondary endpoints include PSA response, safety, serum metformin concentrations and analysis of downstream an mTOR target, phospho-S6-kinase.

Thirty-six men were randomized to either metformin or placebo. Mean age was 68.4. Mean weight, WC and insulin levels increased in both arms. At week 12 and 28, no statistical differences in weight, WC or

insulin were observed in either arm. No significant difference in percentage of patients with PSA

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