

Supplementary Materials

Curcumin and Carnosic Acid Cooperate to Inhibit Proliferation and Alter Mitochondrial Function of Metastatic Prostate Cancer Cells

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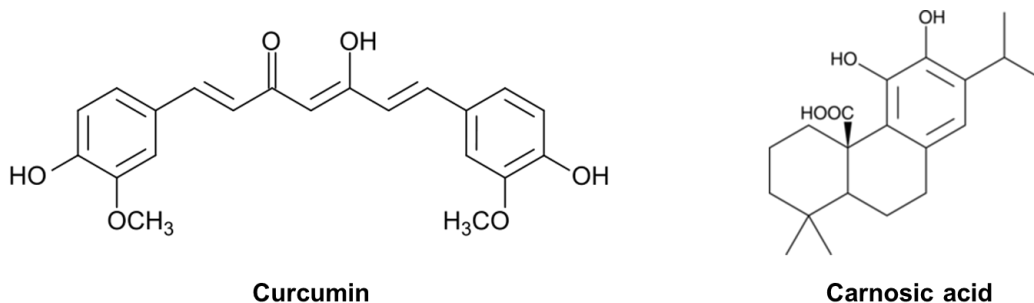


Figure S1. Chemical structures of curcumin and carnosic acid

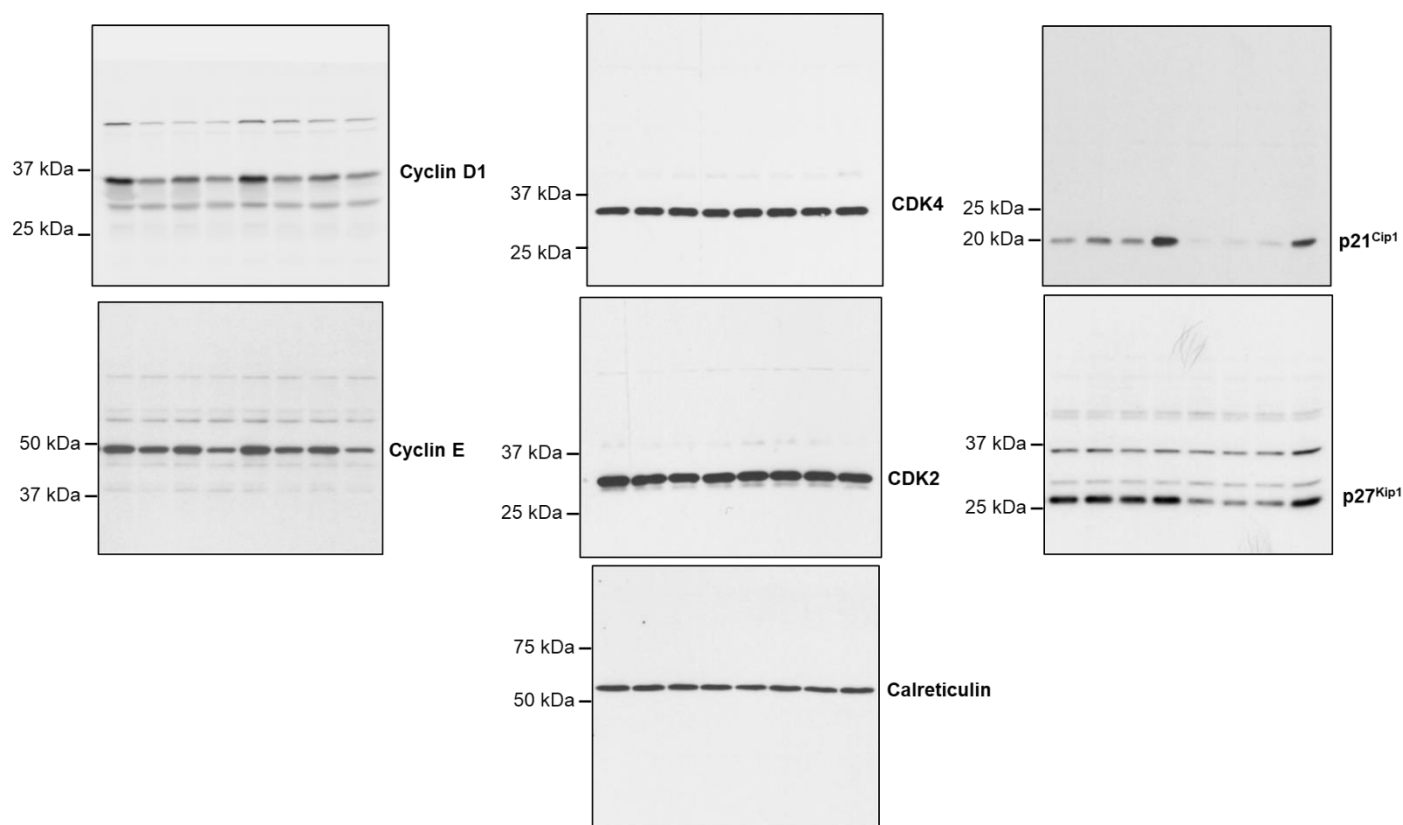


Figure S2. Original images of the Western blots shown in Figure 4c

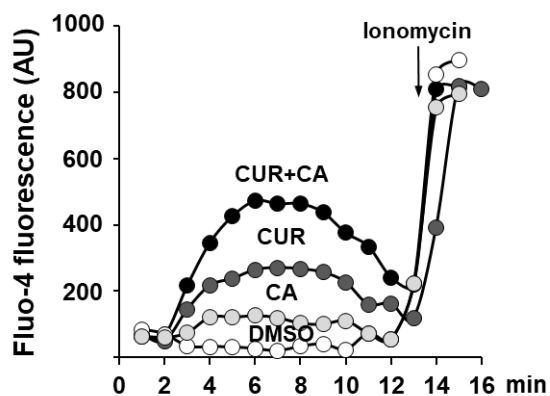


Figure S3. Curcumin and carnosic acid cooperate in inducing moderate and transient cytosolic calcium elevation in DU145 prostate cancer cells. Fluo-4 emission was recorded kinetically at 1-min intervals, starting immediately upon the addition of 7 μ M curcumin (CUR), 5 μ M carnosic acid (CA) their combination (CUR+CA) and the vehicle DMSO. Note that while CA alone has only a modest effect on $[Ca^{2+}]_{cyt}$, CUR and, particularly, its combination with CA produce an appreciable elevation of $[Ca^{2+}]_{cyt}$ that reaches 30-40% of the maximal response induced by 10 μ M ionomycin.

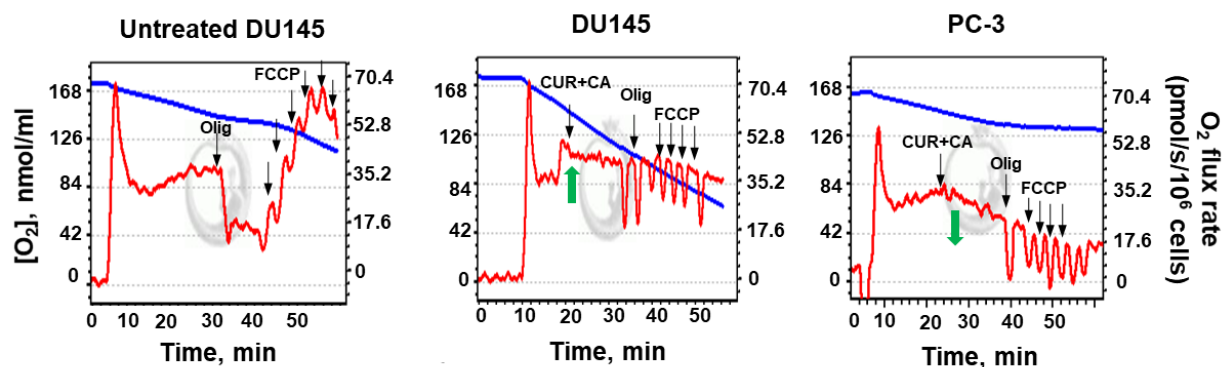


Figure S4. Combinatory effects of curcumin and carnosic acid on mitochondria respiration. Respirogram of the oxygen consumption by intact untreated DU145 cells exemplifying the respirometric protocol applied to all the cell types tested. Original respirograms for three types of intact cells are recorded in the presence of 7 μM CUR and 5 μM CA (CUR+CA). Abbreviations: *Olig*, 1 $\mu\text{g/ml}$ oligomycin-inhibited residual respiration; *FCCP*, stimulation with 20 nM steps of FCCP to obtain the maximal respiratory capacity of mitochondria.

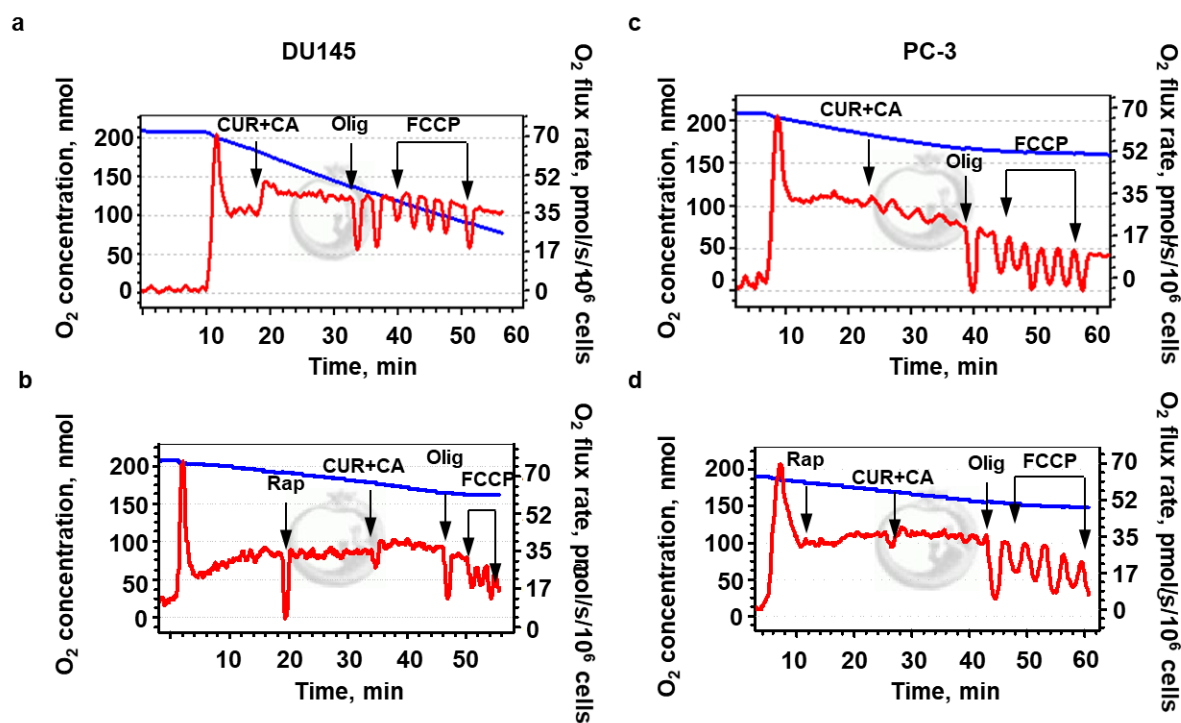


Figure S5. Oxygraphic records of the effects of the combination of curcumin and carnosic acid on respiration of prostate cancer cells, without pretreatment (a, c) or following pre-administration of 5 μM rapamycin (b, d). See the legend to Figure S4 for details.

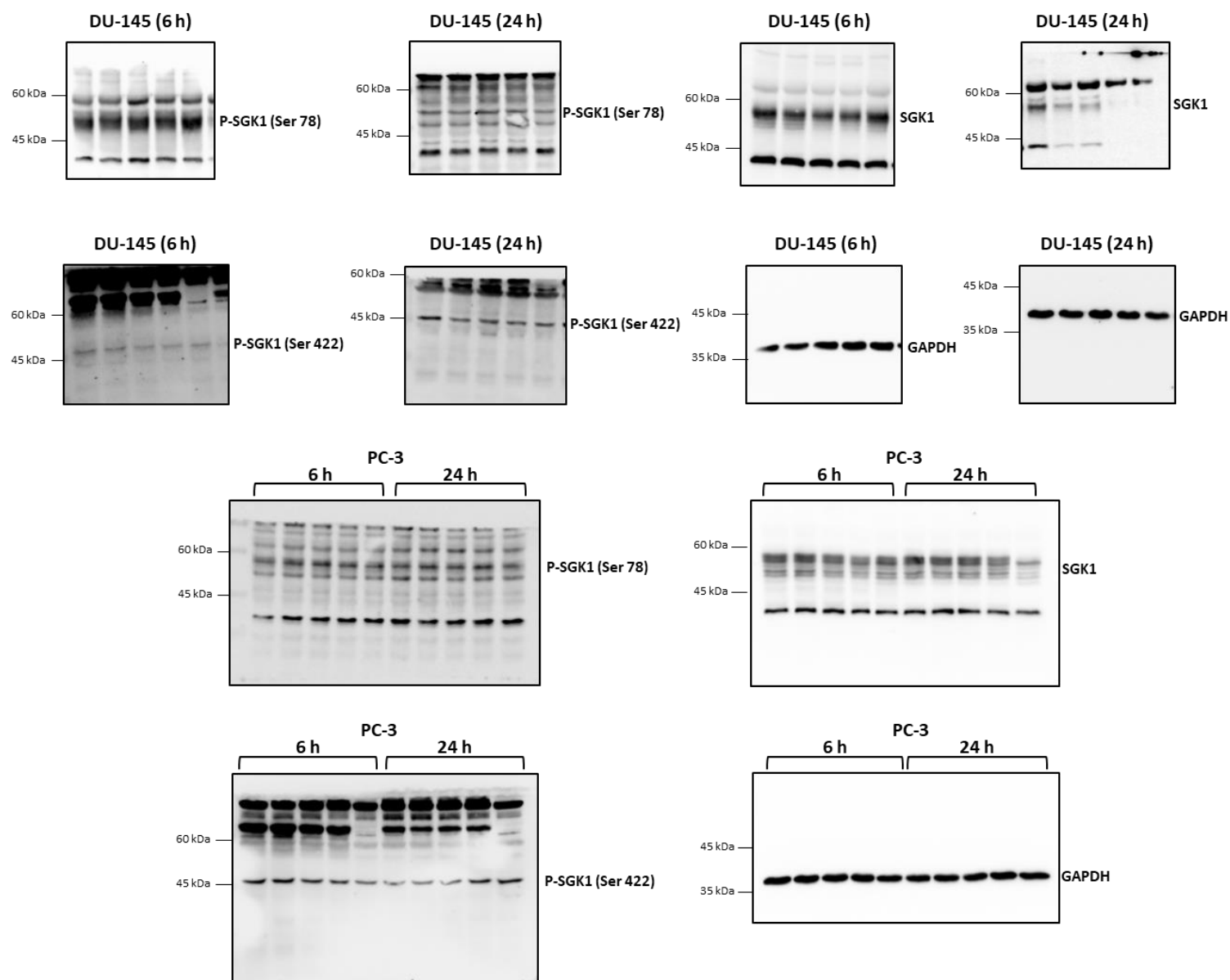


Figure S6. Original images of the Western blots shown in Figure 10