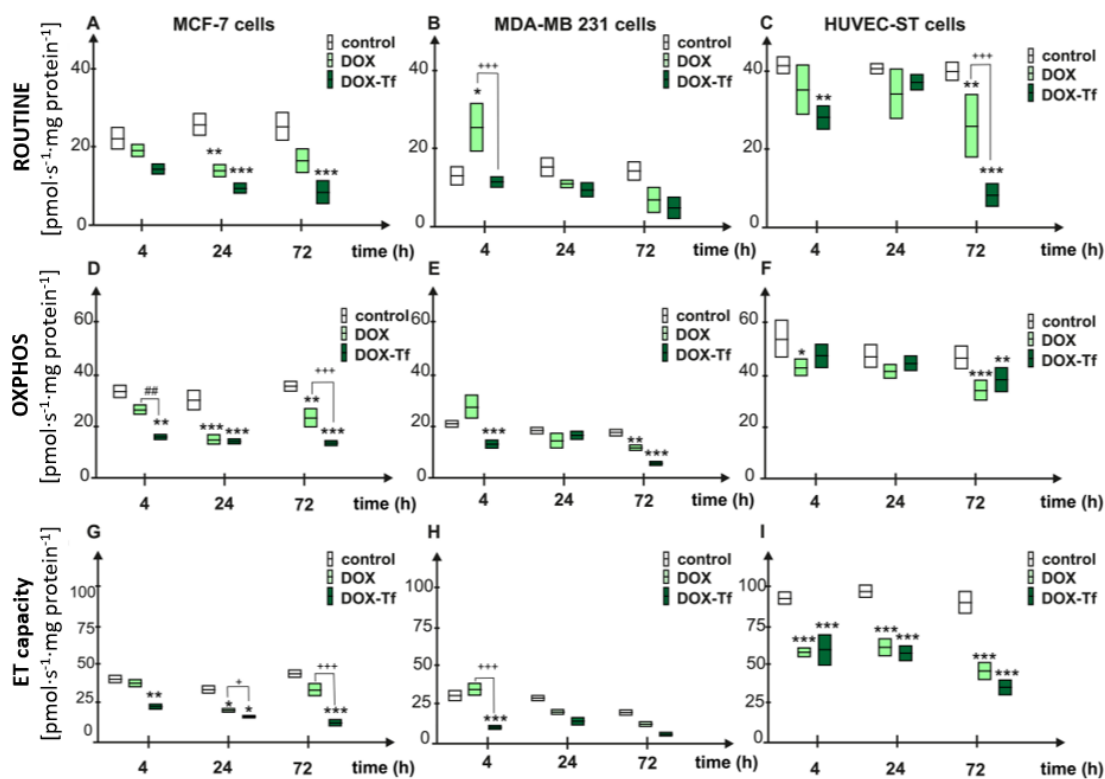


## Doxorubicin–transferrin conjugate alters mitochondrial homeostasis and energy metabolism in human breast cancer cells

SCIENTIFIC  
REPORTS  
nature research

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### Effect of doxorubicin (DOX) and doxorubicin-transferrin (DOX-Tf) conjugate on mitochondrial respiration



**Figure 1.** Mitochondrial respiration of MCF-7 (breast cancer), MDA-MB 123 (triple negative breast cancer) and HUVEC-ST (non-cancer endothelial) cells after incubation with DOX or DOX-Tf. Data are expressed as  $\text{pmol}\cdot\text{s}^{-1}\cdot\text{mg protein}^{-1}$  in permeabilized cells measured after DOX and DOX-Tf treatment with  $\text{IC}_{50}$  concentrations. The following mitochondrial states were evaluated: ROUTINE (A–C) OXPPOS (D–F) and electron transfer (ET) capacity (G–I) after 4, 24 and 72 h incubation with DOX or DOX-Tf. Data were expressed as mean  $\pm$  SD,  $N=3$ . \* $p<0.05$ , \*\* $p<0.01$ , \*\*\* $p<0.001$  denote statistically significant changes in comparison with the control untreated cells; + $p<0.05$ , ++ $p<0.01$ , +++ $p<0.001$  significant differences between samples incubated with DOX or DOX-Tf.

**DOX-Tf conjugate helped to increase intracellular concentration of the drug and consequently enhanced its anticancer activity partially via inhibition of mitochondrial respiration in OXPPOS.**

Reference: Wigner P, Zielinski K, Labieniec-Watala M, Marczak A, Szwed M (2021) Doxorubicin-transferrin conjugate alters mitochondrial homeostasis and energy metabolism in human breast cancer cells. *Sci Rep* 11:4544.

Text slightly modified based on the recommendations of the COST Action MitoEAGLE CA15203. [doi:10.26124/hec:2020-0001.v1](https://doi.org/10.26124/hec:2020-0001.v1)

O2k-brief communicated by T Komlodi and L Tindle-Solomon  
Oroboros Instruments



Supported by project NextGen-O2k which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 859770

