

Application of different respirometric assay systems to characterize the membrane permeabilization potency of saponins

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Saponins are a diverse class of secondary plant metabolites, some of which known for their ability to permeabilize biological membranes. We characterized the potency of several pure saponins to permeabilize plasma membrane and mitochondrial membranes of cultured, human cells for different metabolites.

An initial screen made use of the advantages of a multiplate-format flux analyzer (Agilent Seahorse) while detailed validation exploited the strengths of a high-resolution respirometer (Oroboros O2k).

This study highlights specific strengths and potential synergy of methodologically different cellular respirometry approaches.