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(54) Title: BIOCHEMICAL METHODS FOR MEASURING METABOLIC FITNESS OF TISSUES OR WHOLE ORGANISMS

(57) Abstract: The present invention relates to biochemical methods for assessing matabolic fitness and/or aerobic demands of a living system. Specifically, the rate of synthesis and turnover of the molecular components of mitochondrial mass are used to determine the aerobic capacity and/or aerobic demand of tissues or living organisms. The direct measurement of metabolic fitness and/or aerobic demand by this means can be used as an index of the efficacy of an exercise training program or other therapeutic intervention; as medical risk factor for predicting the risk of cardiovascular disease, diabetes, death or other health outcome; or as an aid to pharmaceutical companies for drug discovery in the area of metabolic fitness, deconditioning, and oxidative biology.