



The Influence of 3-Hydroxybutyrate and Microcurrent Treatment on Cardiomyocytes During Simulated Hypertrophy

By Matthias Pilecky

GRIN Verlag. Paperback. Condition: New. 72 pages. Dimensions: 8.1in. x 5.7in. x 0.2in. Bachelor Thesis from the year 2010 in the subject Biology - Micro- and Molecular Biology, grade: 2, 0, FH Campus Vienna - University of Applied Sciences (Molekulare Biotechnologie), language: English, comment: Eine Bachelorarbeit, die den Einfluss von 3-Hydroxybutyrate und geringen Strombehandlungen auf die Entwicklung von Hypertrophie in primären Zellkulturen sowie Zelllinien untersucht. Der theoretische Teil fasst die aktuellen Erkenntnisse über die Entwicklung von Hypertrophie und chronischem Herzversagen auf zellulärer Ebene zusammen. , abstract: Chronic Heart Failure (CHF) is combined with various metabolic shifts. The continuous adrenergic stress results in a metabolic shift increasing glycolysis similar to a fetal metabolism. However also insulin resistance (IR) was reported triggering low glucose uptake and mitochondrial uncoupling and therefore reactive oxygen species (ROS) production reduce cardiac contractility. The adrenergic increased free fatty acids (FFA) are metabolized to ketone bodies (mainly -hydroxybutyrate (OHB)) which are also energy stocks for brain and heart. Elevated blood ketone levels have been reported during CHF similar to diabetes. Clinically a correlation between ketone body blood level and severity of CHF has been discovered. However it remains unclear whether this is a result of metabolic changes or a...



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