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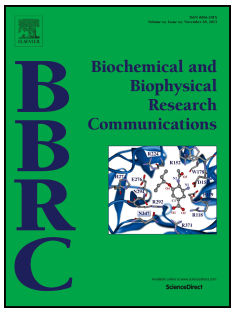

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Role of the Calcium Sensing Receptor in Cardiomyocyte Apoptosis via Mitochondrial Dynamics in Compensatory Hypertrophied Myocardium of Spontaneously Hypertensive Rat

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ABSTRACT

Calcium sensing receptor (CaSR) mediates pathological cardiac hypertrophy. Mitochondria maintain their function through fission and fusion and disruption of mitochondrial dynamic is linked to various cardiac diseases. This study examined how inhibition of CaSR by the inhibitor $Calhex_{231}$ affected the mitochondrial dynamics in a hypertensive model in rats. Spontaneously hypertensive rats (SHRs) and Wistar Kyoto (WKY) rats were used in this study. Cardiac function and blood pressure was evaluated at the end of the study. SHRs showed increases in the ratio of heart weight to body weight and the levels of CaSR; all of these increases were suppressed by $Calhex_{231}$. Additionally, $Calhex_{231}$ treatment of SHRs changed the expression of proteins involved in mitochondrial dynamics. Our results demonstrated