,QÀXHQFHV RI 3DOPLWROHLF $FLG ,Q PHWDEROLVP DQG *HQH

Maysa Mariana Cruz, Farias TM, de Sá RDC, Batini F, Barbosa and Alonso-Vale MIC
Federal University of São Paulo, Brazil

We have recently demonstrated that palmitoleic acid (16:1n7) increases lipolysis, glucose uptake and glucose utilization fo energy production in white adipose cells. In the present study, we tested the hypothesis that palmitoleic acid modulates bioenergetic activity in white adipocytes. For this, 3 T3-L1 pre-adipocytes were di erentiated into mature adipocytes in the presence (or absence) of palmitic (16:0) or palmitoleic (16:1n7) acid at 100 or 200 M. e following parameters were evaluated: lipolysis, lipogenesis, fatty acid (FA) oxidation, ATP content, oxygen consumption, mitochondrial mass, citrate synthase activity and protein content of mitochondrial oxidative phosphorylation (OXPHOS) complexes. Treatment with 16:1n7 during 9 days raised basal and isoproterenol-stimulated lipolysis, FA incorporation into triacylglycerol (TAG), FA oxidation, oxygen consumption, protein expression of subunits representing OXPHOS complex II, III, and V and intracellular ATP content. ese e ects were not observed in adipocytes treated with 16:0. Palmitoleic acid, by concerted action on lipolysis, FA esteri cation, mitochondrial FA oxidation, oxygen consumption and ATP content, does enhance white adipocyte energy expenditure and may act as local hormone.

Biography

Maysa Mariana Cruz will completed her PhD at the age of 28 years from Federal University of Sªo Paulo. She is a pharmacist, Master of science and has published SDSHU DV ¿UVW DXWKRU DQG SDSHUV DV FRDXWKRU

maysamariana@gmail.com

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