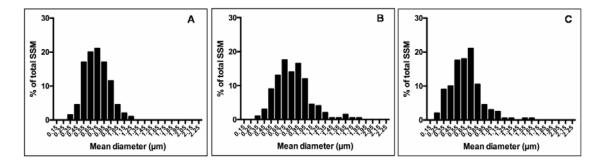


**Figure S1.** Nuclear cardiomyocytes morphology and ultrastructure. Photomicrographs showing ventricular cardiomyocytes in lean mice (**A**), *ob/ob* mice (**B**) and *ob/ob* mice treated with melatonin (**C**) presented different nuclear size and contour. Semithin sections stained by methylene blue-azur II. Ultrastructural evidence of nuclear indentations (arrow) in lean mice (**D**). Scale bars = A–C: 20  $\mu$ m; D: 1  $\mu$ m.



**Figure S2.** Heart sub-sarcolemmal mitochondrial features. The graphs summarize the SSM mitochondria diameter and distribution along size-classes of lean mice (**A**), *ob/ob* mice (**B**) and *ob/ob* mice treated with melatonin (**C**).