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 762 Figure.1S. Citrate synthase activity measured in cardiac muscle fibers homogenates and  
 763 oxygen flux in respirometry experiments normalized to CS activity in the IZ. The activity  
 764 is expressed in  $\text{nmol citrate}\cdot\text{mg}^{-1}\cdot\text{min}^{-1}$  and  $\text{O}_2$  flux by  $[\text{pmol}/(\text{s}\cdot\text{mg})]/\text{CS}$ . (a) CS  
 765 activity comparing PBS (n=8) and AD-MSC-treatment group (n= 7) during necrotic phase and (c)  
 766 fibrotic phase (PBS-8d, n=7; AD-MSC-8d group, n= 8). (b) Mitochondrial  
 767 functional parameters showing  $\text{O}_2$  flux normalized to CS activity comparing PBS-group and AD-  
 768 MSC-  
 769 group during necrotic phase and (d) fibrotic phase. *n* were those described in the table 1S.  
 770 Data represent mean  $\pm$  SEM values. To compare treated and non-treated groups was used  
 771 unpaired t-test.

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 773 **Table 1S. Effects of mesenchymal stromal cells from adipose tissue (AD-MSCs) on**  
 774 **the**  
 775 **mitochondrial function of permeabilized cardiac fibers (IZ) from rats after**  
 776 **acute**  
 777 **myocardial infarction (AMI).** Rats were treated with AD-MSCs or PBS after AMI, and  
 778 different parameters of the mitochondrial function of permeabilized cardiac fibers  
 were analyzed by high-resolution respirometry, according to the multiple substrate-  
 uncoupler-  
 inhibitor titration protocol.

| Mitochondrial<br>function parameter<br>(in $\text{pmol O}_2 \text{ s}^{-1} \text{ mg}^{-1}$ ) | Necrotic phase    |                   | Fibrotic phase   |                  |
|---|-------------------|-------------------|------------------|------------------|
|   | PBS<br>(n=10)     | AD-MSC<br>(n=7)   | PBS<br>(n=7)     | AD-MSC<br>(n=8)  |
| <b>CI</b>   | 1.25 $\pm$ 0.56   | 0.91 $\pm$ 0.66   | 0.77 $\pm$ 0.41  | 1.44 $\pm$ 0.61  |
| <b>CIp</b>  | 7.02 $\pm$ 2.18   | 3.73 $\pm$ 1.76   | 8.47 $\pm$ 2.10  | 8.98 $\pm$ 2.06  |
| <b>CI + CIp</b>   | 106.0 $\pm$ 10.5  | 131.8 $\pm$ 15.73 | 23.98 $\pm$ 4.87 | 28.40 $\pm$ 3.71 |
| <b>Leak state (L)</b>   | 107.4 $\pm$ 14.04 | 128.7 $\pm$ 16.62 | 20.81 $\pm$ 3.94 | 20.09 $\pm$ 2.31 |
| <b>(CI+CIp-L)</b>   | 5.24 $\pm$ 2.5    | 4.13 $\pm$ 2.5    | 3.18 $\pm$ 1.17  | 8.3 $\pm$ 2.3    |
| <b>E</b>  | 119.7 $\pm$ 14.79 | 134.5 $\pm$ 18.27 | 26.29 $\pm$ 4.68 | 26.66 $\pm$ 3.54 |
| <b>CI<sub>max</sub></b>   | 14.94 $\pm$ 2.68  | 17.66 $\pm$ 3.8   | 6.78 $\pm$ 1.85  | 6.37 $\pm$ 1.47  |
| <b>CI<sub>max</sub></b>   | 99.6 $\pm$ 15.17  | 104.6 $\pm$ 17.1  | 17.72 $\pm$ 3.23 | 18.06 $\pm$ 2.5  |
| <b>ROX</b>  | 9.08 $\pm$ 0.33   | 10.02 $\pm$ 1.03  | 5.26 $\pm$ 1.02  | 4.9 $\pm$ 0.86   |
| <b>Cytocrome C (%)</b>  | 33.16 $\pm$ 5.65  | 29.38 $\pm$ 6.8   | 20.83 $\pm$ 7.15 | 24.64 $\pm$ 6.7  |
| <b>L/E</b>  | 0.91 $\pm$ 0.06   | 0.96 $\pm$ 0.04   | 0.79 $\pm$ 0.02  | 0.77 $\pm$ 0.02  |
| <b>(CI+CIp-L)/E</b>   | 0.03 $\pm$ 0.05   | 0.04 $\pm$ 0.034  | 0.11 $\pm$ 0.04  | 0.30 $\pm$ 0.09  |
| <b>RCR</b>  | 1.05 $\pm$ 0.07   | 1.03 $\pm$ 0.03   | 1.14 $\pm$ 0.05  | 1.4 $\pm$ 0.13   |

779 CI- non-phosphorylative state; CI<sub>p</sub>-phosphorylative state associated with complex  
I; CI+CI<sub>p</sub>-  
780 maximal phosphorylative state; (CI+CI<sub>p</sub> - L) - flux coupled with ATP synthesis;  
E -  
781 maximal respiratory capacity; CI<sub>max</sub> - complex I contribution to the maximal ETS  
capacity;  
782 CII<sub>max</sub> - complex II contribution to the maximal ETS capacity; ROX - residual oxygen  
783 consumption; Cyto C -an index of mitochondrial outer membrane integrity; L/E - leak  
control  
784 ratio; (CI+CI<sub>p</sub> - L)/E- express how much from ETS capacity is used to produce ATP;  
RCR -  
785 respiratory control ratio. Values are expressed as mean ± SEM. Any difference was  
visible  
786 between vehicle-treated (PBS) group and AD-MSA-treated group (by unpaired t-test).