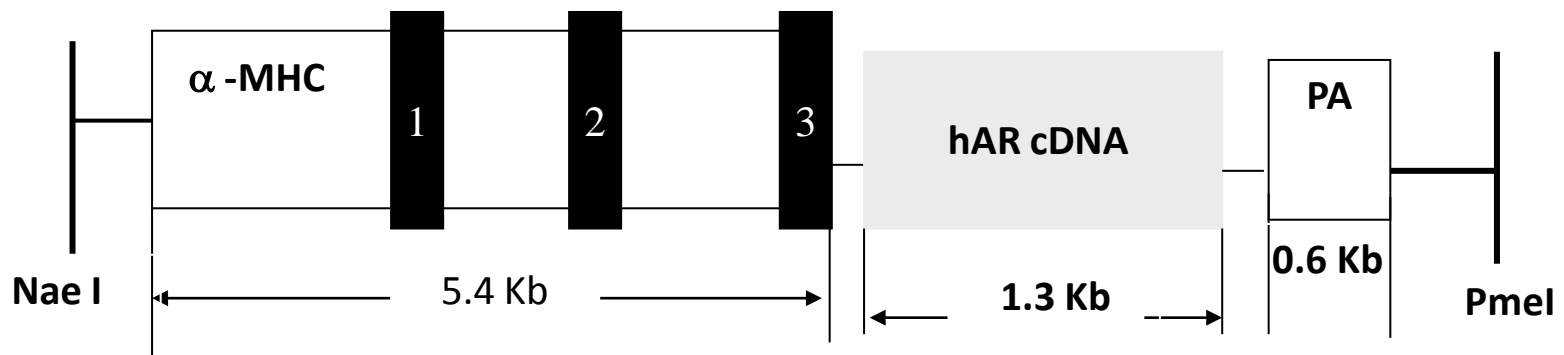


# Columbia-NYU AMDCC

Goldberg/Fisher

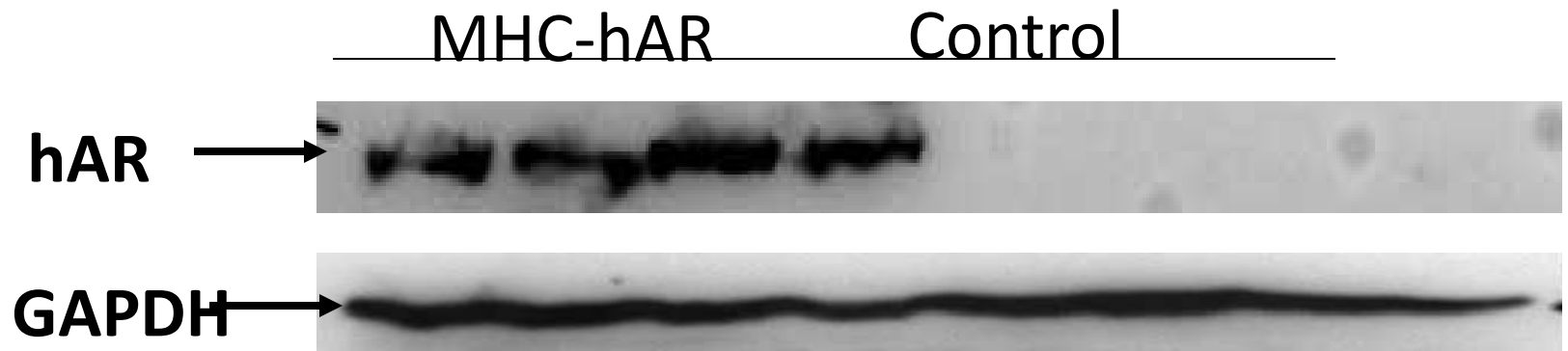
- Effects of MCH-AR on heart function
- MHC-PPAR $\gamma$ xPPAR $\alpha$ -/-, collaboration with ED Abel

# MHC-AR Construct

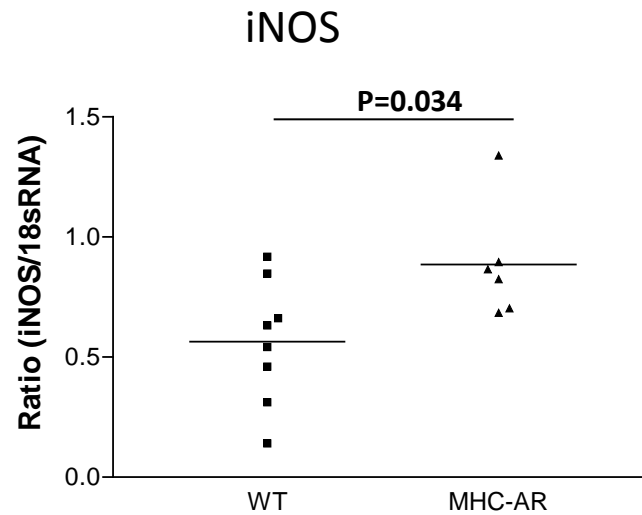
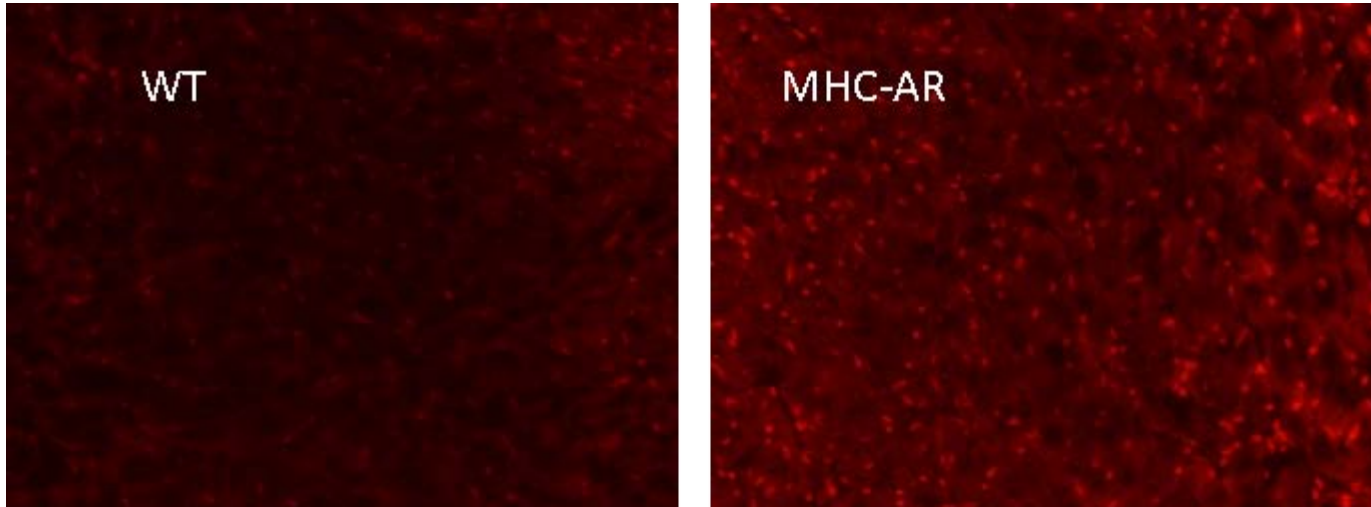


# Heart tissue Western Blotting

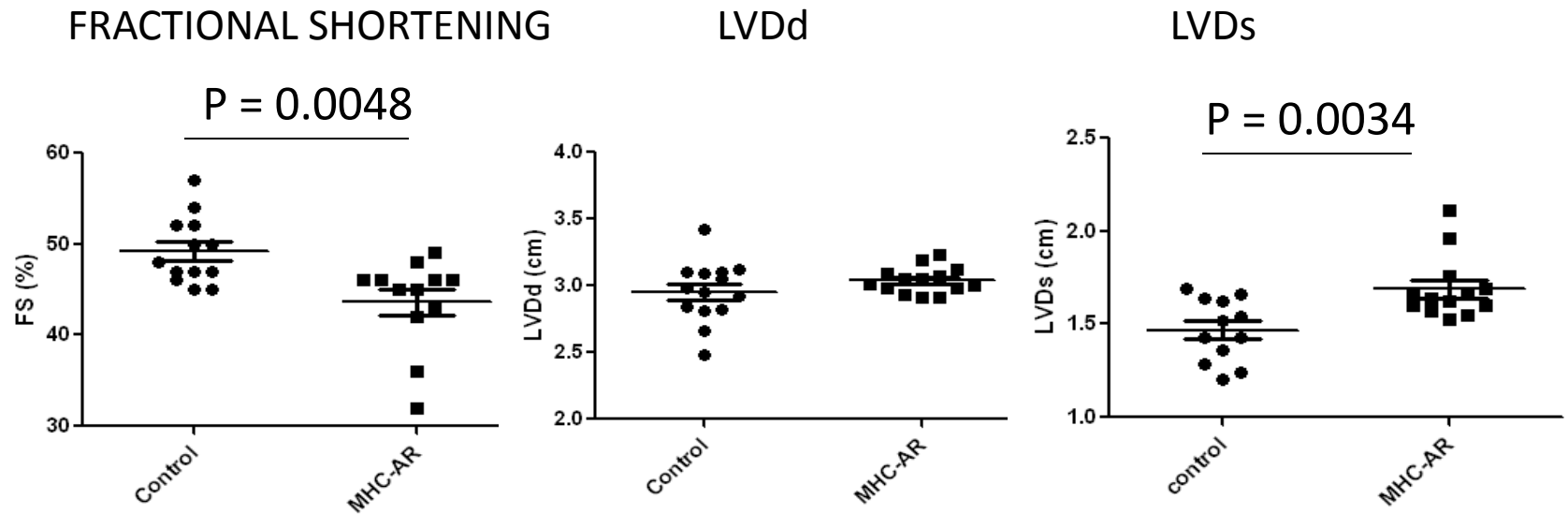
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# Increased ROS products and iNOS mRNA expression in MHC-hAR mice



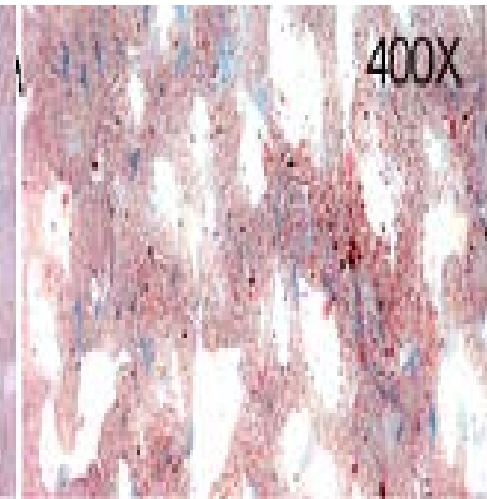
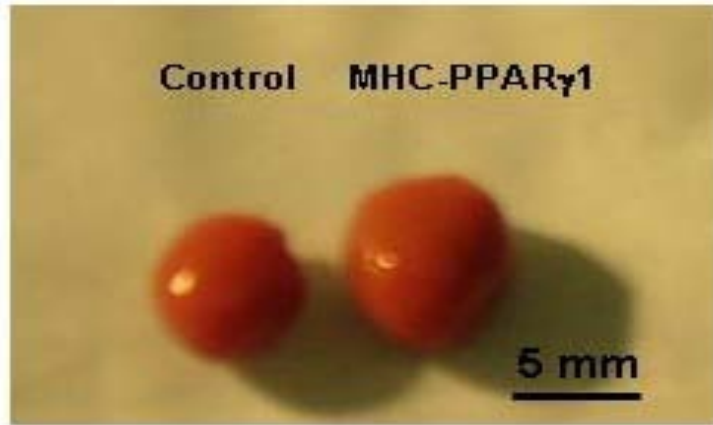
# ECHO analysis of 12-month old male mice



# MHC-PPAR $\gamma$ 1 Transgenic Mice have Cardiac Dysfunction

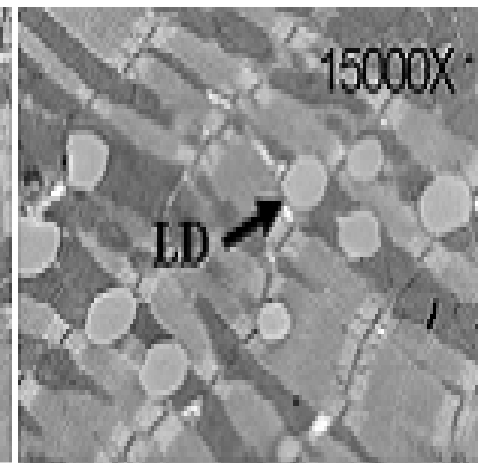
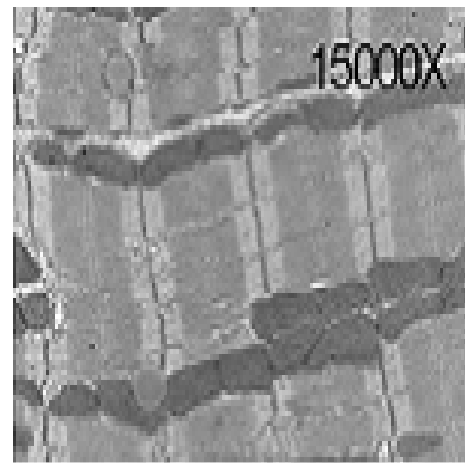
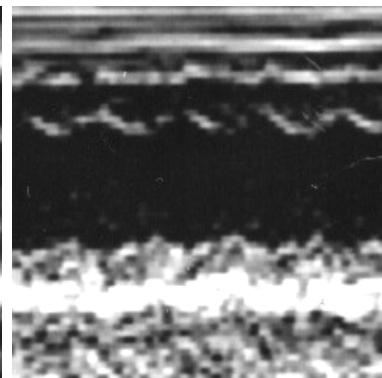
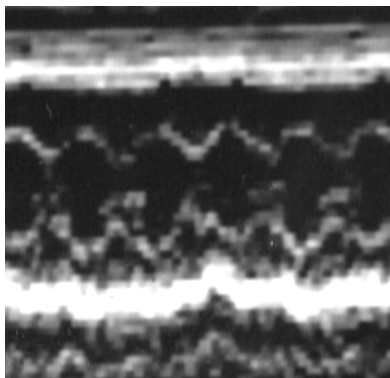
Control

MHC-PPAR $\gamma$ 1



Control

MHC-PPAR $\gamma$ 1H



## **Hypothesis**

Deletion of PPAR $\alpha$  will reduce expression of downstream genes and improve heart function.



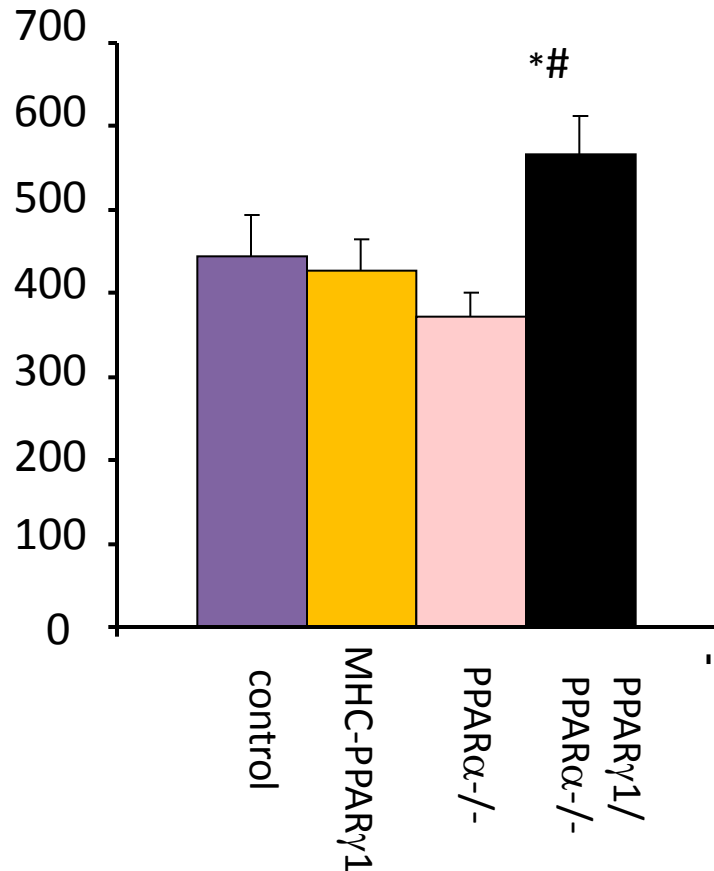
# PPAR Downstream Genes were Upregulated in PPAR $\gamma$ /PPAR $\alpha^{-/-}$ mice

Genes	Control	MHC-PPAR $\gamma$ 1	PPAR $\alpha^{-/-}$	MHC-PPAR $\gamma$ 1/ PPAR $\alpha^{-/-}$
<b>Lipid metabolism</b>				
<b>CD36</b>	<b>1.00 ± 0.44</b>	<b>2.36 ± 1.14*</b>	<b>1.00 ± 0.36</b>	<b>10.1 ± 1.74**</b>
<b>CPT1</b>	1.00 ± 0.12	0.98 ± 0.13	0.73 ± 0.17*	1.35 ± 0.10**
<b>AOX</b>	<b>1.00 ± 0.23</b>	<b>3.01 ± 1.03*</b>	<b>0.67 ± 0.26</b>	<b>11.1 ± 3.52**</b>
<b>ATGL</b>	1.00 ± 0.16	2.09 ± 0.32*	0.88 ± 0.31	2.92 ± 1.21**
<b>FAS</b>	1.00 ± 0.45	2.18 ± 0.59*	1.06 ± 0.62	4.88 ± 1.13**

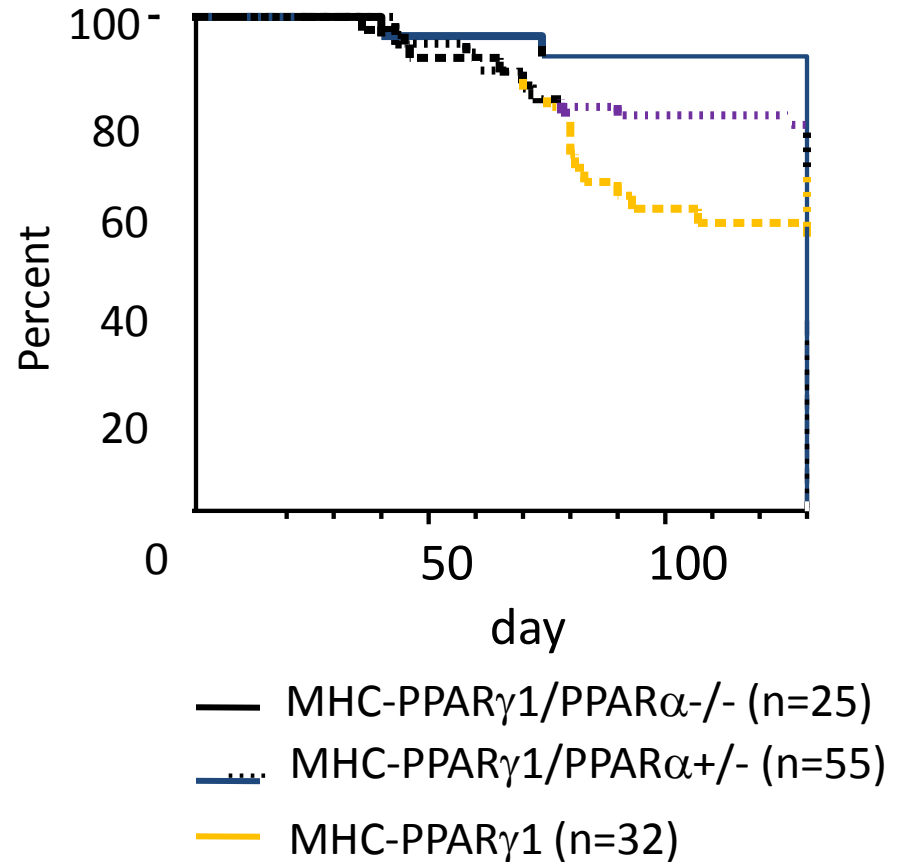
Male mice were fed with a chow diet. Data are shown as mean ratio ( $\pm$  S.D.) corrected for 18S rRNA and normalized to that of littermate controls (=1.0). \*, P<0.05 versus littermate controls. #, P<0.05 versus MHC-PPAR $\gamma$ 1.

# MHC-PPAR $\gamma$ /PPAR $\alpha$ <sup>-/-</sup> Mice Have Increased Fatty Acid Oxidation but Reduced Mortality

Palmitate Oxidation



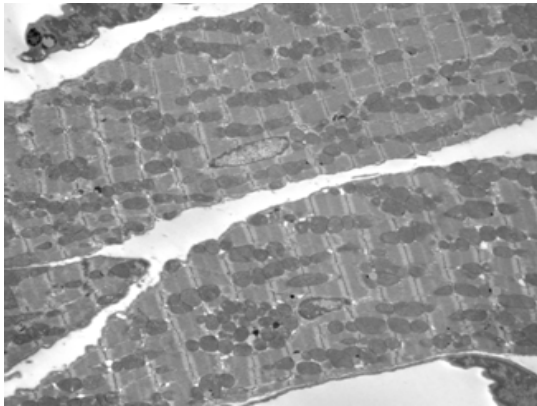
Survival



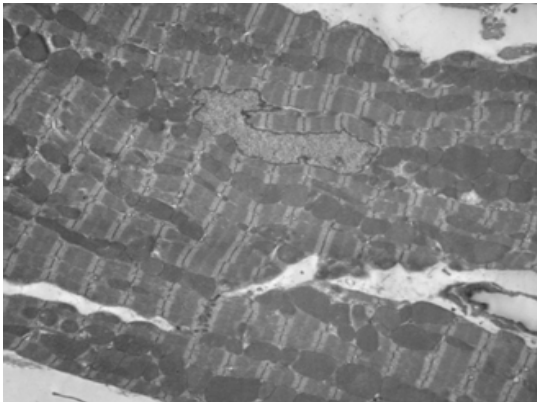
# Clusters of Irregularly Shaped Mitochondria around Large Lipid Droplets in MHC-PPAR $\gamma$ /PPAR $\alpha$ <sup>-/-</sup> mice

(X5000)

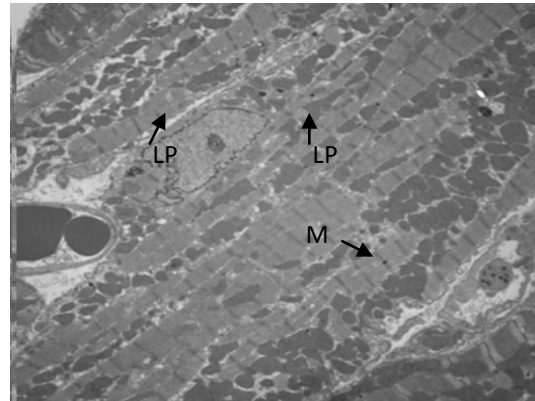
Control



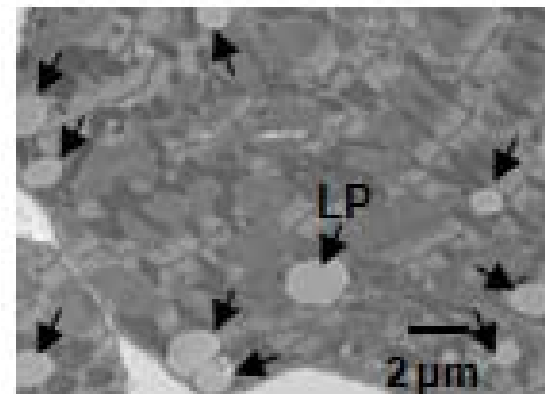
PPAR $\alpha$ <sup>-/-</sup>



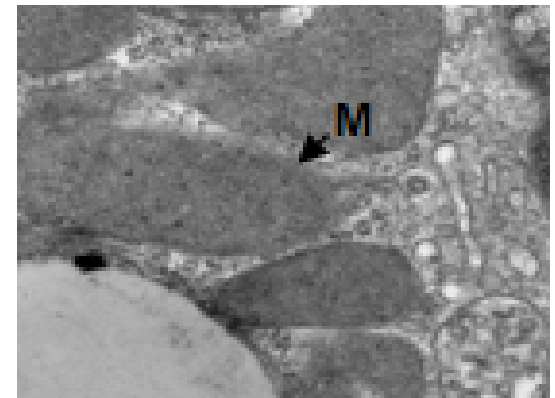
MHC-PPAR $\gamma$



MHC-PPAR $\gamma$ /PPAR $\alpha$ <sup>-/-</sup>



(X10,000)



MHC-AR mice ( I'm going to get good image)

